N.O.T.E.S.

Старший научный сотрудник ПНИЛ хирургической гастроэнтерологии и эндоскопии (Зав. лаб.,член-корр. РАМН, проф. Панцырев Ю.М.), Кафедра госпитальной хирургии № 2 (зав. каф., проф. Шаповальянц С.Г.), Городская клиническая больница № 31 (глав. врач, член-корр. РАМН, проф. Голухов Г.Н.),
Российский Государственный Медицинский Университет,

хирург-эндоскопист Тимофеев Михаил Евгеньевич

Краткий фото отчет о N.O.T.E.S. технологиях на 11- ом ВСЕМИРНОМ КОНГРЕССЕ ПО ЭНДОСКОПИЧЕСКОЙ ХИРУРГИИ, 11-th WORLD CONGRESS OF ENDOSCOPIC SURGERY (WCES) YOKOHAMA, JAPAN, September 2 – 5, 2008

И Д Е Я

В этой презентации сконцентрирована БОЛЬШАЯ ЭНЕРГЕТИКА МИРОВОЙ НАУКИ в *N.O.T.E.S.* направлении,

так как она создана на материале ведущих специалистов в этой области, включая их доклады и слайды, обсуждения в зале и кулуарах, мечты о совершенствовании эндоскопических технологий и *укреплении статуса*

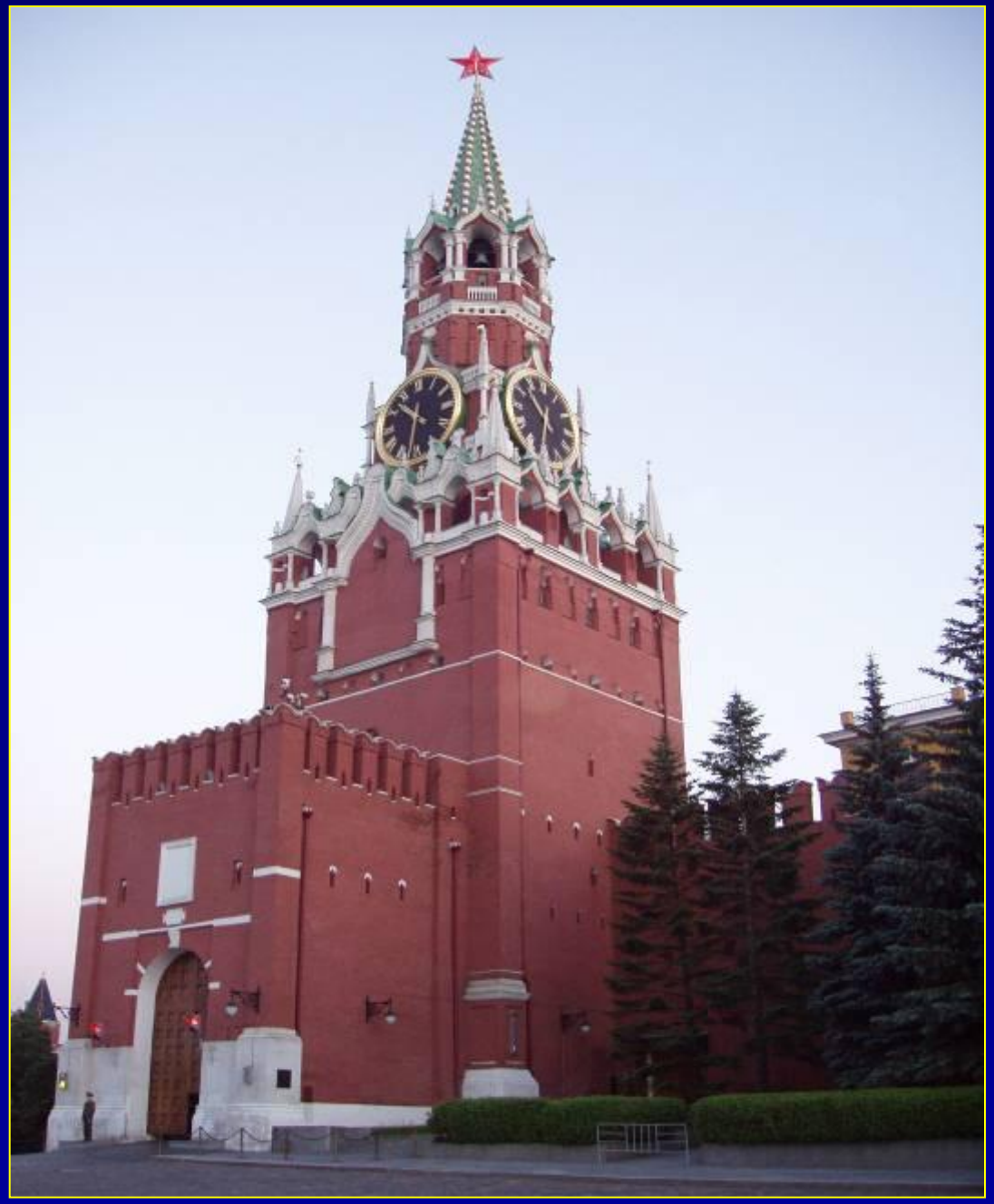
ВРАЧА – ЭНДОСКОПИСТА...,

О ВЫЗДОРОВЛЕНИИ ПАЦИЕНТОВ С МИНИМАЛЬНЫМИ ЗАТРАТАМИ *ИХ* ЗДОРОВЬЯ НА ЭТО…

БОЛЬШОЕ СПАСИБО !
ЗА ПОЗНАНИЕ И ПОНИМАНИЕ
***N.O.T.E.S.* ТЕХНОЛОГИЙ**

ВАТАРУ ТАКАХАШИ
ЕМЕЛЬЯНОВУ С.И.
ИЗУМИ КАДОЯ
КАЗАКУ С.М.
ЛУЦЕВИЧУ О.И.
МИТРОФАНОВУ Д.О.
НЕХЗЕР А.А.
СТАРКОВУ Ю.Г.
ФЕДОРОВУ А.В.
ФЕДОРОВУ Е.Д.
ШИШИНУ К.В.

СОВМЕСТНЫЙ ПЕРЕЛЕТ ИЗ СТОЛИЦЫ НАШЕЙ РОДИНЫ - МОСКВЫ



В …

Я П О Н И Ю …

11-th WORLD CONGRESS OF ENDOSCOPIC SURGERY (WCES)
YOKOHAMA, JAPAN, September 2 – 5, 2008

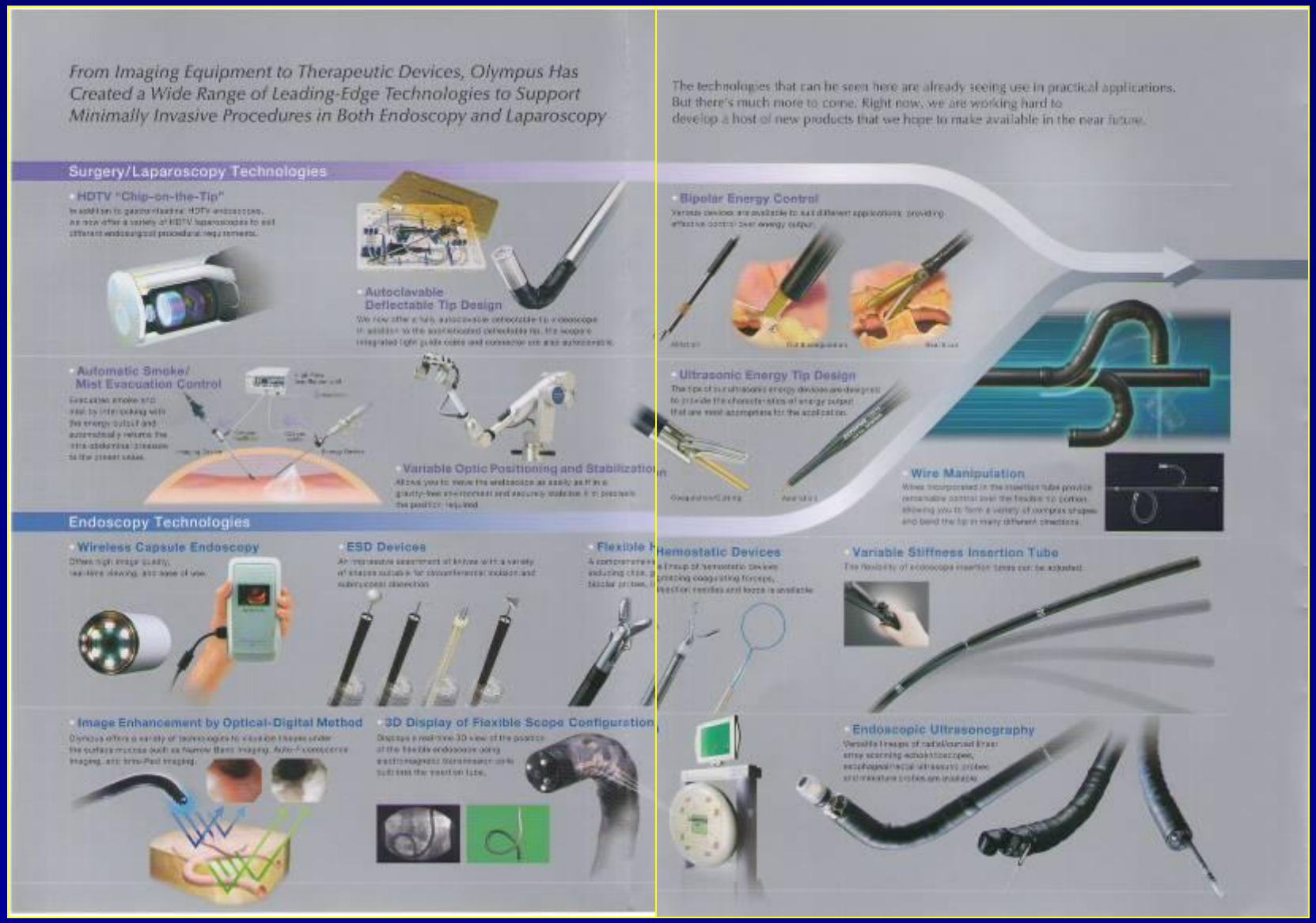
ВЫСТАВОЧНЫЙ КОМПЛЕКС

КОНФЕРЦ. ХОЛЛ

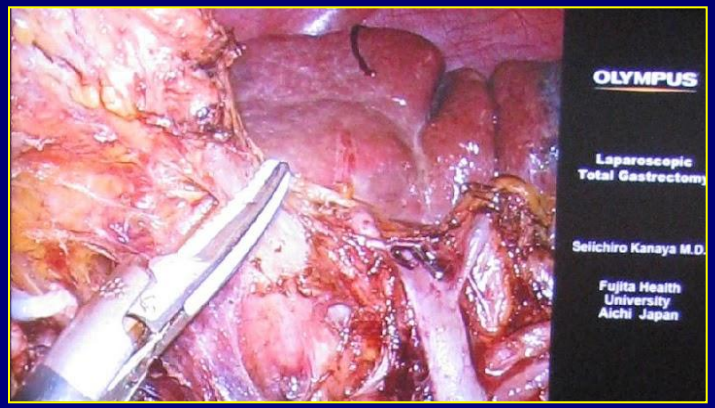
РОССИЙСКАЯ ДЕЛЕГАЦИЯ 11-го КОНГРЕССА НА СЕМИНАРЕ В ЦЕНТРАЛЬНОМ ОФИСЕ OLYMPUS г. ТОКИО

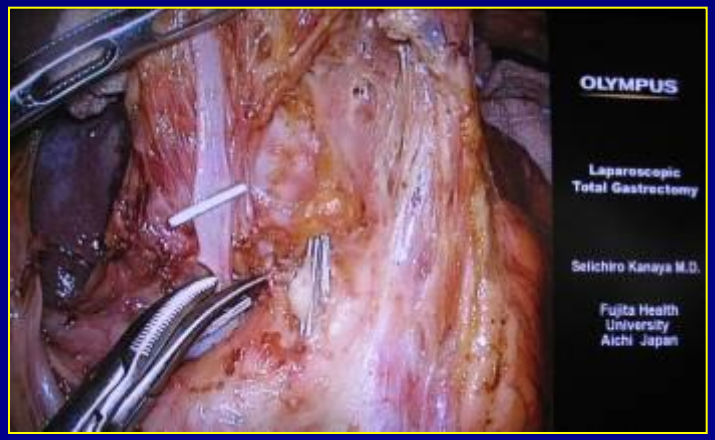
СЕМИНАР ПО НОВЫМ ТЕХНОЛОГИЯМ В ЦЕНТРАЛЬНОМ ОФИСЕ OLYMPUS г. ТОКИО

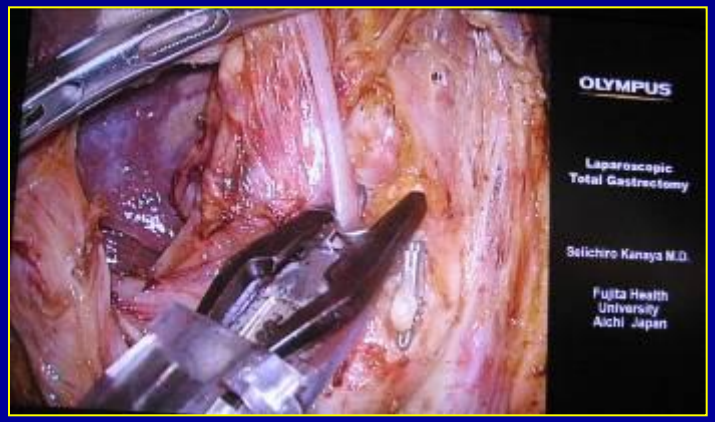
ПОЛНОЦЕННЫЙ СПЕКТР СОВРЕМЕННЕЙШЕГО ЭНДОСКОПИЧЕСКОГО ОБОРУДОВАНИЯ ФИРМЫ OLYMPUS



HD VIDEO LAPAROSCOPE and HD ENDOSCOPE



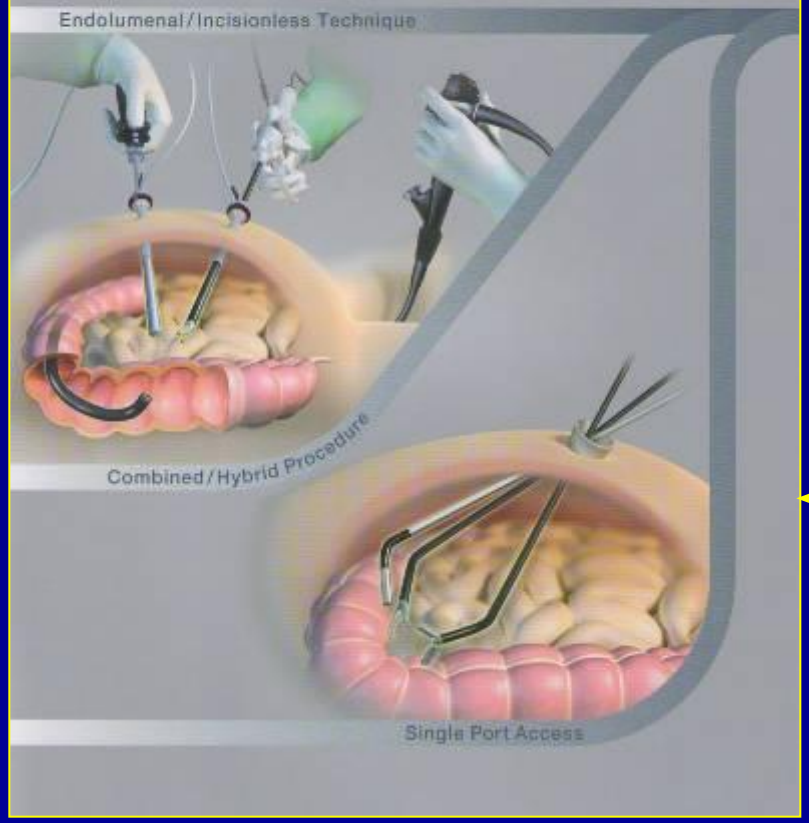




СЛИЯНИЕ ТЕХНОЛОГИЙ

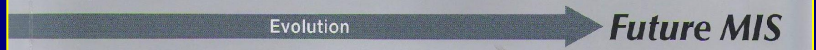
By Contributing to the Development of New Techniques Like Single Port Access, Combined/Hybrid, and Endolumenal/Incisionless Techniques, Olympus Is Forging the Era of Future MIS

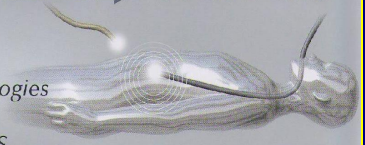
The future of MIS has already begun. With the introduction of new techniques, endoscopic surgery is opening up new vistas and challenging traditional concepts of surgery. Olympus' role is to help consolidate those advances and provide doctors with the tools they need to take future MIS to the next level.



We Are Committed to Developing the Tools You Need to Facilitate New Minimally Invasive Techniques in the Future

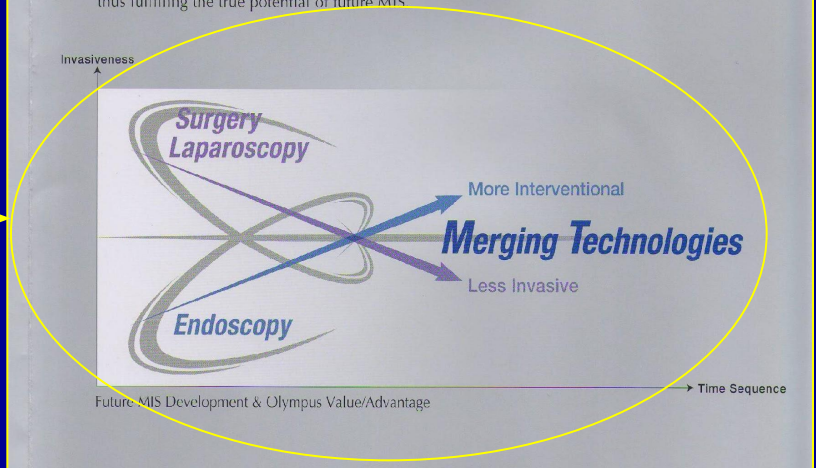
Among the wide array of products we're developing, our focus is on developing devices that will provide the basis for a multitasking platform, support spatial orientation and visualization, and offer flexible suturing and closure.





We Are Merging Our Diverse Technologies into New Value-Added Products That Are Helping Establish Future MIS

At Olympus, we have the technology and the experience to offer a solution that merges technologies to make laparoscopy less invasive and endoscopy more interventional, thus fulfilling the true potential of future MIS.



ЭВОЛЮЦИЯ ХИРУРГИЧЕСКОГО ДОСТУПА

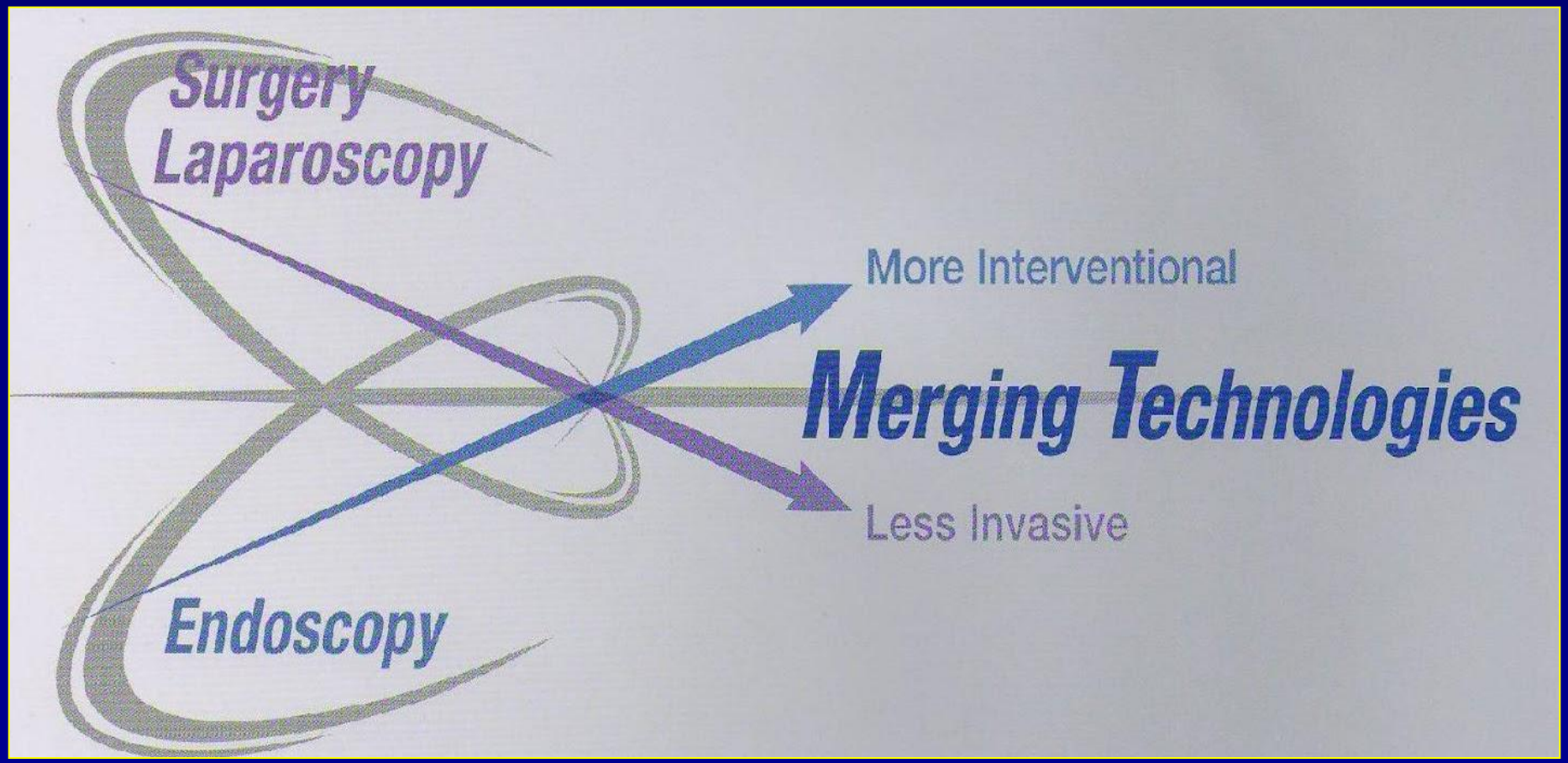
Традиционный доступ лапаротомия

Малотравматичный доступ минилапаротомия

Малотравматичный доступ лапароскопия

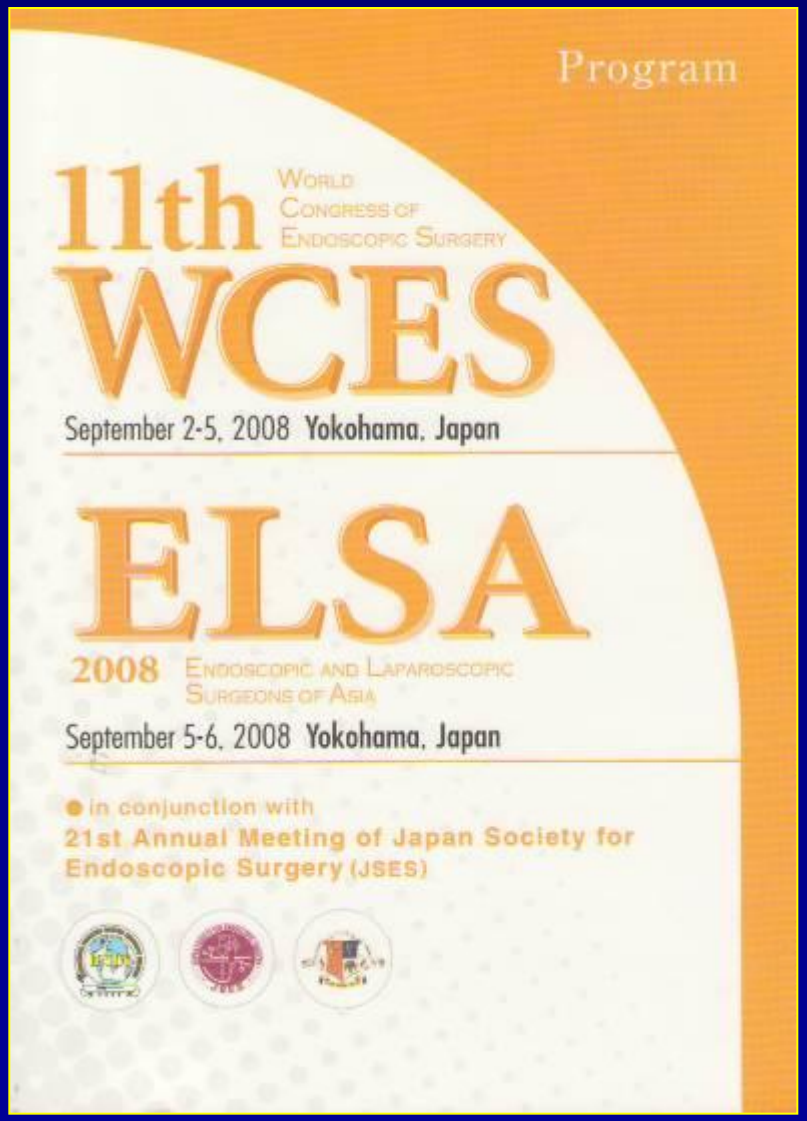
N.O.T.E.S. ***(без повреждений передней брюшной стенки)***

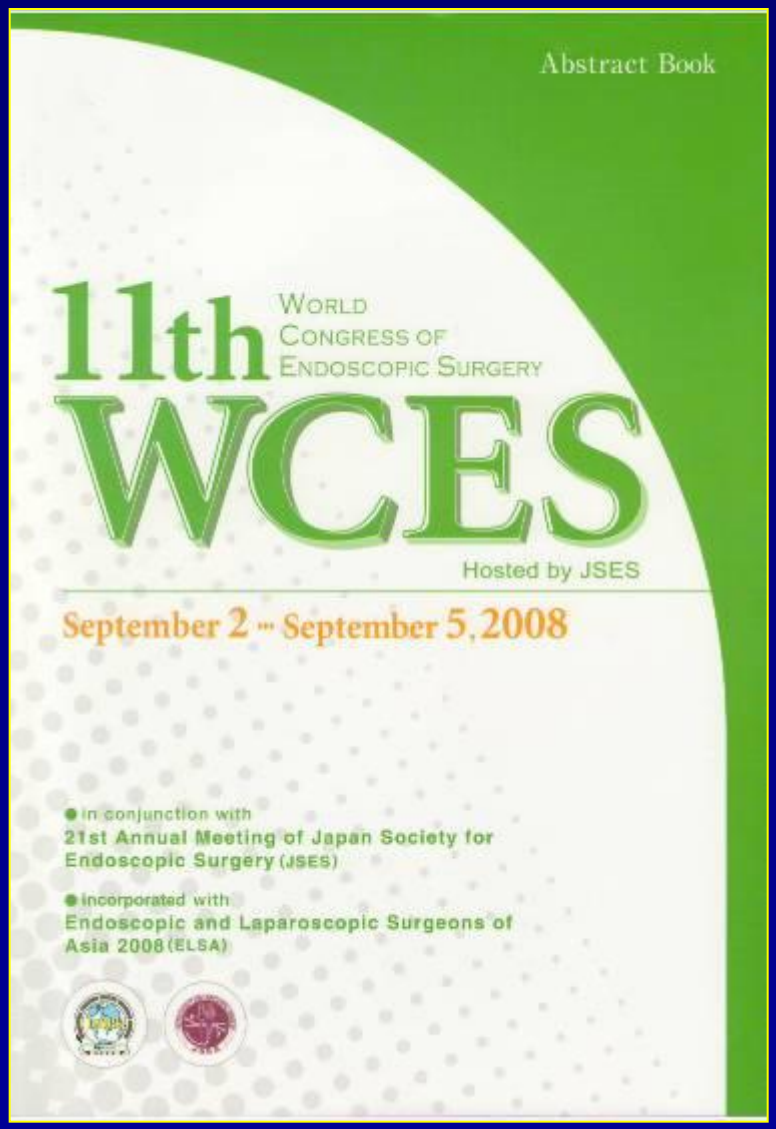
«ДЕВИЗ» 11-го МЕЖДУНАРОДНОГО КОНГРЕССА ПО ЭНДОСКОПИЧЕСКОЙ ХИРУРГИИ…



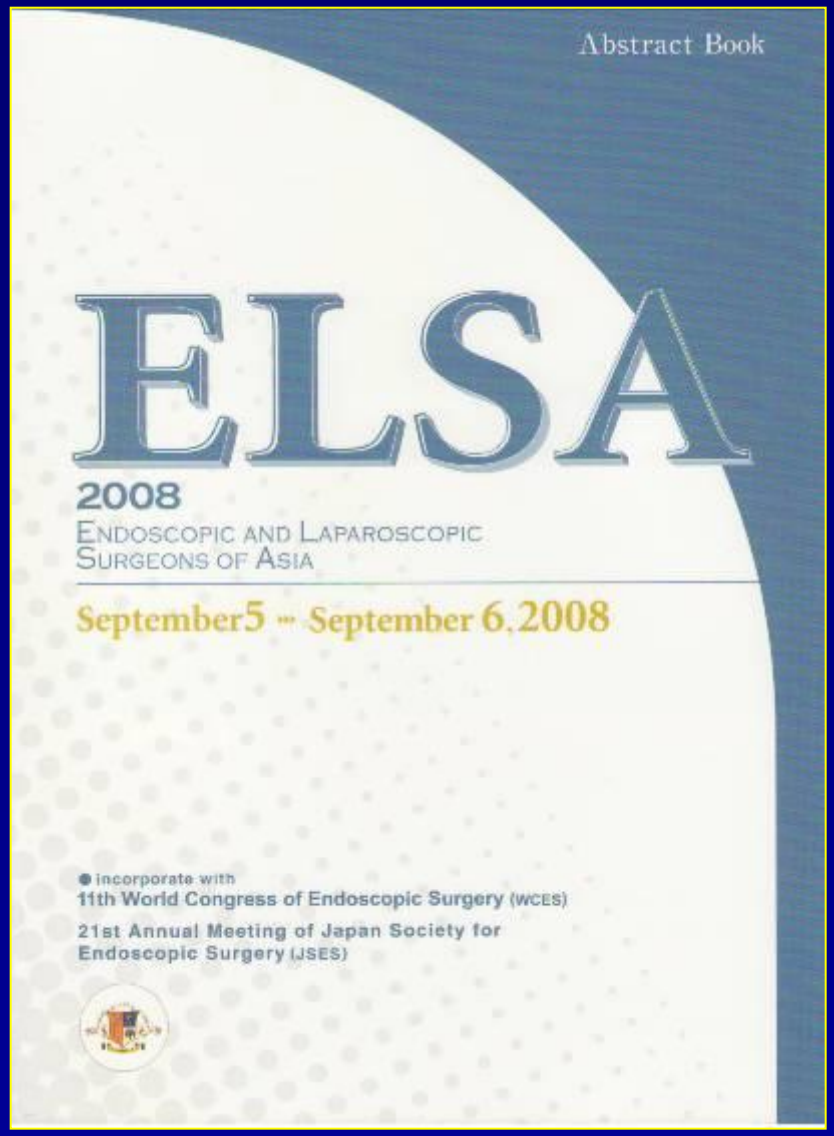
…ВТОРОЕ ДЫХАНИЕ ЭНДОСКОПИИ,
А ТАК ЖЕ ДАЛЬНЕЙШИЙ ШТУРМ
ТРАДИЦИОННОЙ И ЛАПАРОСКОПИЧЕСКОЙ ХИРУРГИИ…

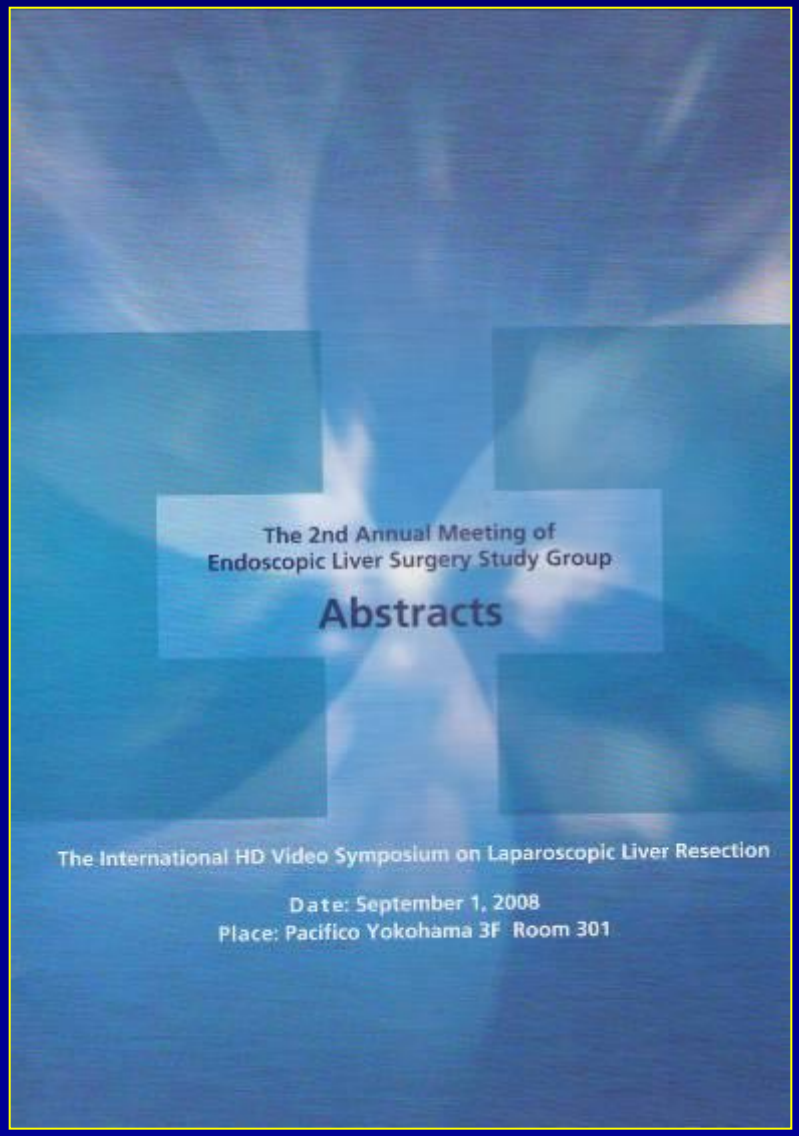
ОСНОВНЫЕ ДОКУМЕНТЫ КОНГРЕССА





ОСНОВНЫЕ ДОКУМЕНТЫ КОНГРЕССА





11th WCES Symposium

World Summit of NOTES /Endolumenal Surgery

Sponsored by

OLYMPUS

Your Vision, Our Future

Laparoscopy

Merging Technologies

Endoscopy

Sep 3 (Wed) WCES

Sponsored Symposium 8:30 – 18:00 Room 6, 5F (Small Auditorium)

World Summit of NOTES / Endolumenal Surgery

8:30–8:40 **OPENING REMARKS** **Seigo Kitano, MD** Department of Surgery I, Oita University Faculty of Medicine, Oita, Japan

8:40–11:30 *NOTES organizational activity update and proposal for the future*

Chairman: **Robert H. Hawes, MD** Division of Gastroenterology and Hepatology, Medical University of South Carolina, SC, USA
Antonio M. Lacy, MD Department of Surgery, Faculty of Medicine, University of Barcelona /Hospital Clinic, Barcelona, Spain

8:40–11:10 • NOSCAR • EURO-NOTES • Japan NOTES • Asia-Pacific WG on NOTES • NOSLA (Latin America)

Speaker:
- NOSCAR **David W. Rattner, MD** Department of Surgery, Massachusetts General Hospital, Boston, MA, USA
- EURO-NOTES **Karl-Hermann Fuchs, MD** Department of Surgery, Markus Krankenhaus, Frankfurt, Germany
- Japan NOTES **Hisao Tajiri, MD** Gastroenterology and Hepatology, The Jikei University School of Medicine, Tokyo, Japan
- Asia-Pacific WG on NOTES **Enders Kowk Wai Ng, MD** Department of Surgery, Chinese University of Hong Kong, Prince of Wales Hospital, Hong Kong, China
- NOSLA **Jose R. Speranza, MD** Generala Surgery, Universidad del Rosario, Rosario, Argentina

11:10–11:30 **DISCUSSION**
Speaker: All speakers

15:00–16:30 *State of the Art: Endolumenal Surgery "Endolumenal Techniques and Future NOTES"*

• Lower GI Surgery • Upper GI Surgery

Chairman: **Seigo Kitano, MD** Department of Surgery I, Oita University Faculty of Medicine, Oita, Japan
Michael Ka Wah Li, MD Department of Surgery, Pamela Youde Nethersole Eastern Hospital, Hong Kong, China

Speaker:
- Lower GI Surgery
  1) **Jeffery W. Milsom, MD** Section of Colon and Rectal Surgery, Department of Surgery, Weill Medical College of Cornell University, New York Presbyterian Hospital, NY, USA
  2) **Naohisa Yahagi, MD** Department of Gastroenterology, Toranomon Hospital, Tokyo, Japan
- Upper GI Surgery
  1) **Kazuki Sumiyama, MD** Department of Endoscopy, The Jikei University School of Medicine, Tokyo, Japan
  2) **Kazuhiro Yasuda, MD** Department of Surgery I, Oita University Faculty of Medicine, Oita, Japan

16:30–18:00 *State of the Art: NOTES "Various Approaches and Devices"*

Chairman: **Greg V. Stiegmann, MD** Department of Surgery, University of Colorado Denver, CO, USA
Karl-Hermann Fuchs, MD Department of Surgery, Markus Krankenhaus, Frankfurt, Germany

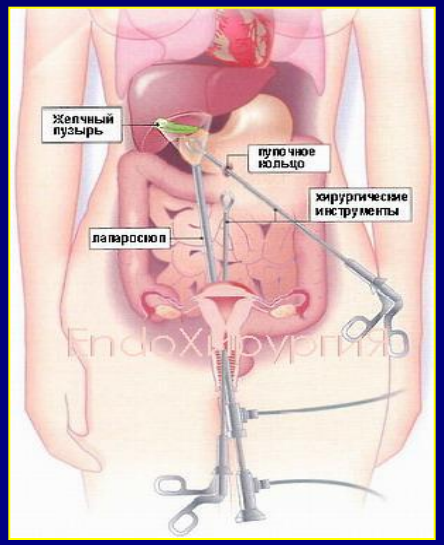
Speaker: **G. V. Rao, MD** Asian Institute of Gastroenterology, Hyderabad, India
Davide Lomanto, MD Minimally Invasive Surgical Centre, Department of Surgery, National University Hospital, Singapore
Lee L. Swanstrom, MD Minimally Invasive Surgery, Legacy Emanuel and Good Samaritan Hospitals, Legacy Health System, OR, USA
Paul Swain, MD Department of Surgical Oncology and Technology, Imperial College, London, UK
Antonio M. Lacy, MD Department of Surgery, Faculty of Medicine, University of Barcelona /Hospital Clinic, Barcelona, Spain

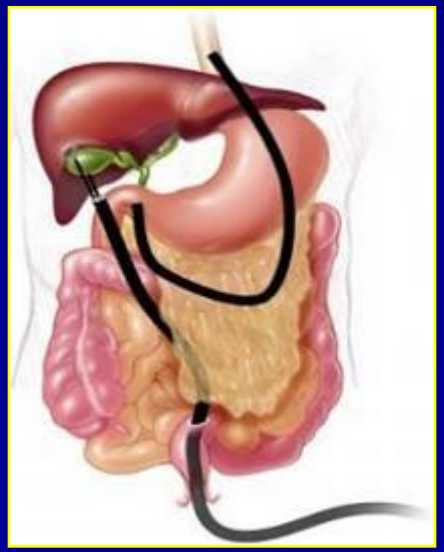
ТЕРМИНОЛОГИЯ *NOTES*

Natural Orifice Translumenal Endoscopic Surgery (Эндоскопическая транслюминальная хирургия через естественные отверстия)

E-NOTES	**Embryonic Natural Orifice *Translumenal* Endoscopic Surgery**
NOTUS	**Natural Orifice Trans *Umbilical* Surgery**
TUES	**Trans *Umbilical* Endoscopic Surgery**
TULA	**Trans *Umbilical* Laparoscopic Assisted**
SILS	**Single Incision Laparoscopic Surgery**
SPA	**Single Port Access**
OPUS	**One Port Umbilical Surgery**
LESSS	**Laparoscopic & Endoscopic Single Site Surgery**

NOTES *В СХЕМАХ РАЗЛИЧНЫХ АВТОРОВ*





ИСТОРИЯ РАЗВИТИЯ ДИАГНОСТИЧЕСКОЙ ЛАПАРОСКОПИИ

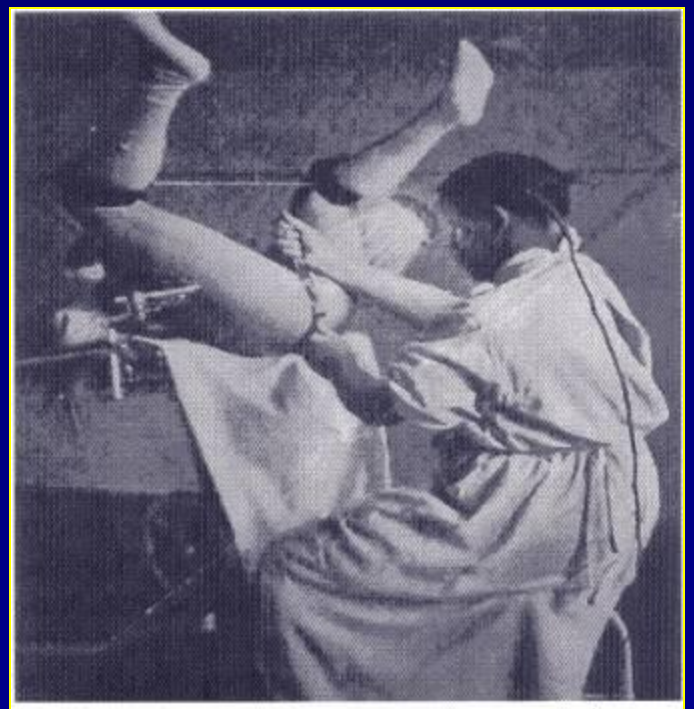


Fig. 4-3. Dimitri Oskarovic von Ott at work

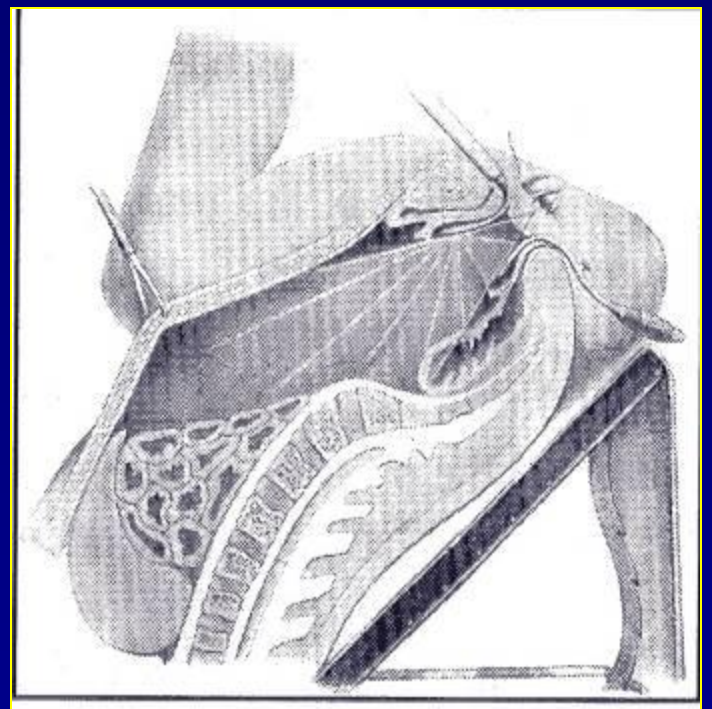


Fig. 4-2. Per vaginam into the abdomen

19 апреля 1901 год – впервые выполнена *вентроскопия* профессором-гинекологом Дмитрием Оскаровичем Оттом и опубликовано сообщение «Освещение брюшной полости (вентроскопия) как метод при влагалищном

ЭКСПЕРИМЕНТАЛЬНЫЕ ОПЕРАЦИИ NOTES НА ЖИВОТНЫХ

Swain, Mills	1991	Трансгастральный доступ	Гастроеюностомия Холецистогастростомия
Kallo, Apollo	2004	Трансгастральный доступ	Диагностическая лапароскопия
Swain	2005	Трансгастральный доступ	Холецистэктомия
Jagannath	2005	Трансгастральный доступ	Клипирование маточных труб
Kantsevoy	2005	Трансгастральный доступ	Спленэктомия
Unger	2005	Трансгастральный доступ	Аппендэктомия
Lima	2006	Чрезмочепузырный доступ	Лапароскопия
Fong	2007	Чрезтолстокишечный доступ	Лапароскопия

КОМИТЕТЫ ПО КОНТРОЛЮ И ИССЛЕДОВАНИЯМ

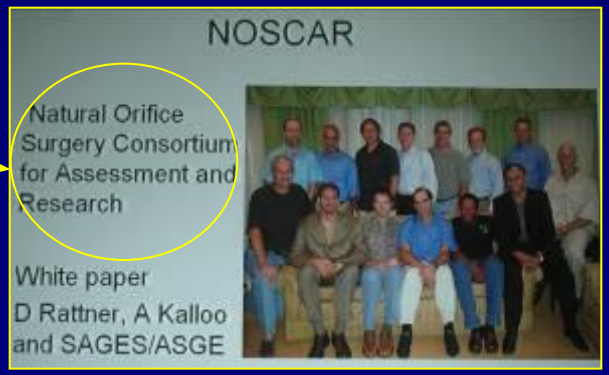
2006 – NOSCAR (ASGE + SAGES)

2006 – Asia-Pacific NOTES Working Group

2007 – Euro NOTES

2007 – Japan NOTES

2008 – Отделение транслюминальной хирургии РОЭХ



NOTES ВМЕШАТЕЛЬСТВА У ЧЕЛОВЕКА

Bessler M.	2007	Комбинированный (трансвагинальный и лапароскопический)	Холецистэктомия
Palanivelu C.	2008	Трансвагинальный	Аппендэктомия
Hazey J.W.	2008	Трансгастральный доступ	Диагностическая лапароскопия
Branco Filho A.J.	2008	Комбинированный (трансвагинальный и лапароскопический)	Холецистэктомия
Zorron R.	2008	Трансвагинальный	Холецистэктомия
Zornig C.	2008	Комбинированный (трансвагинальный и лапароскопический)	Холецистэктомия
Per-Ola Park	2008	Трансгастральный доступ	Аппендэктомия

NOTES-ХОЛЕЦИСТЭКТОМИЯ У ЧЕЛОВЕКА

(ГИБРИДНЫЕ ОПЕРАЦИИ, СОЧЕТАЮЩИЕ ЛАПАРОСКОПИЧЕСКИЙ И ТРАНСЛЮМИНАЛЬНЫЙ ДОСТУПЫ)

20 марта 2007 года
Нью-Йорк, США

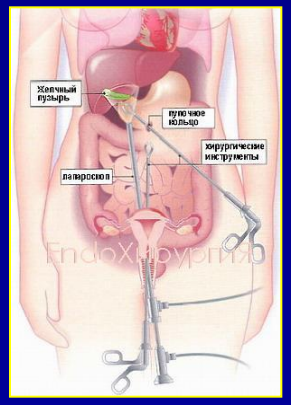
Трансвагинальная лапароскопически-ассистированная холецистэктомия с использованием 3-х троакаров

Профессор Jacques Marescaux

2 апреля 2007 года
Университетская клиника,
Страстбург, Франция

Трансвагинальная лапароскопически-ассистированная холецистэктомия с использованием одного 2 мм троакара в правом подреберье

Официальная презентация
21 апреля 2007 года
на 7 Конгрессе АНРВА,
Лас Вегас, Невада



Трансвагинальная лапароскопически-ассистированная холецистэктомия с использованием одного троакара в параумбиликальной области

24 июля 2007 года

Alice Emmermann

Больница Израэлитов, Гамбург, Германия

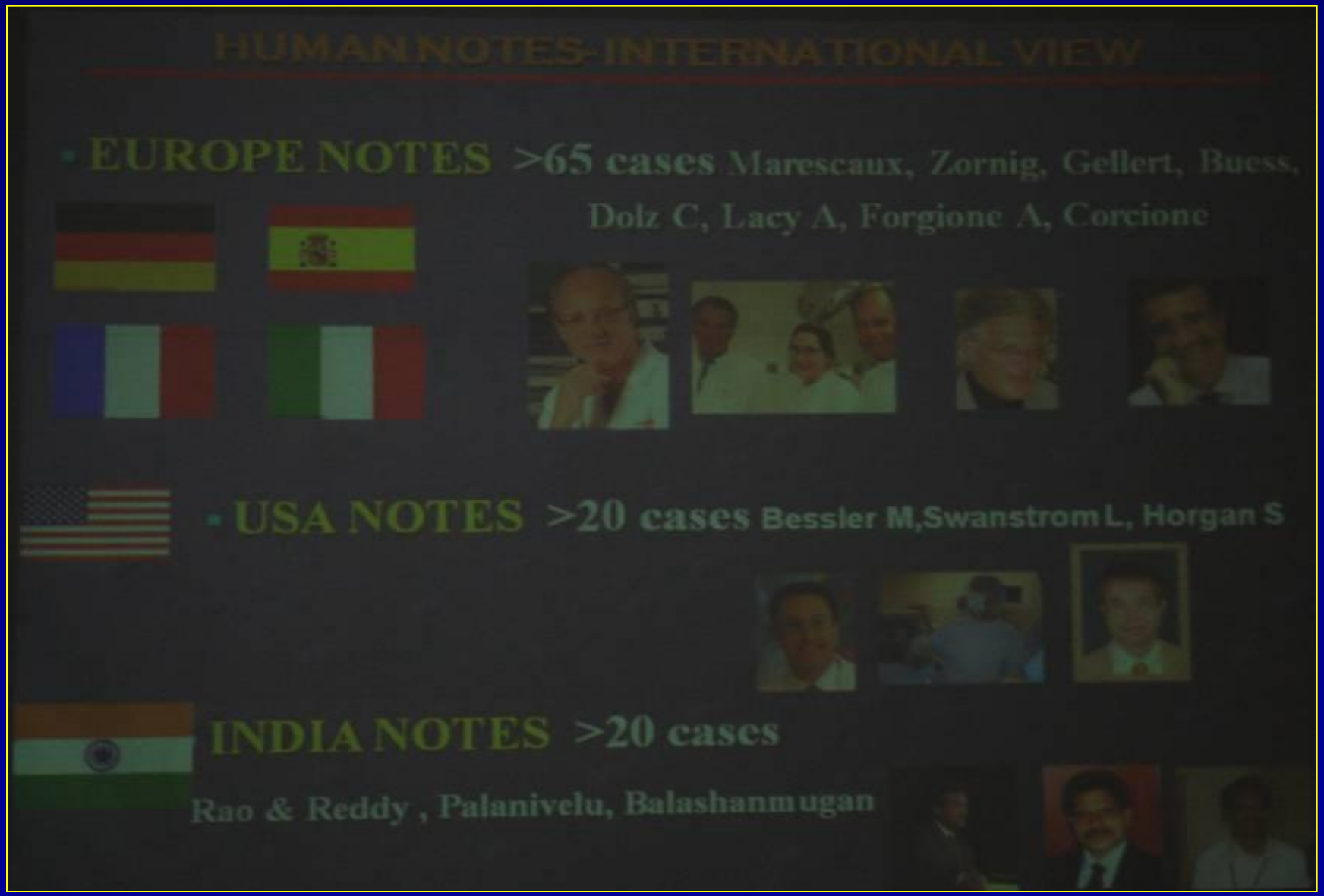
N.O.T.E.S. РАСПРОСТРАНЕННОСТЬ

Впервые в России транслюминальные вмешательства выполнены в «Институте хирургии им. А.В. Вишневского»

(Трансвагинальная холецистэктомия гибким эндоскопом выполнена 16.04.08 г. Хирурги-эндоскописты: Старков Ю.Г., Шишин К.В., Солодинина Е.Н. и др.)

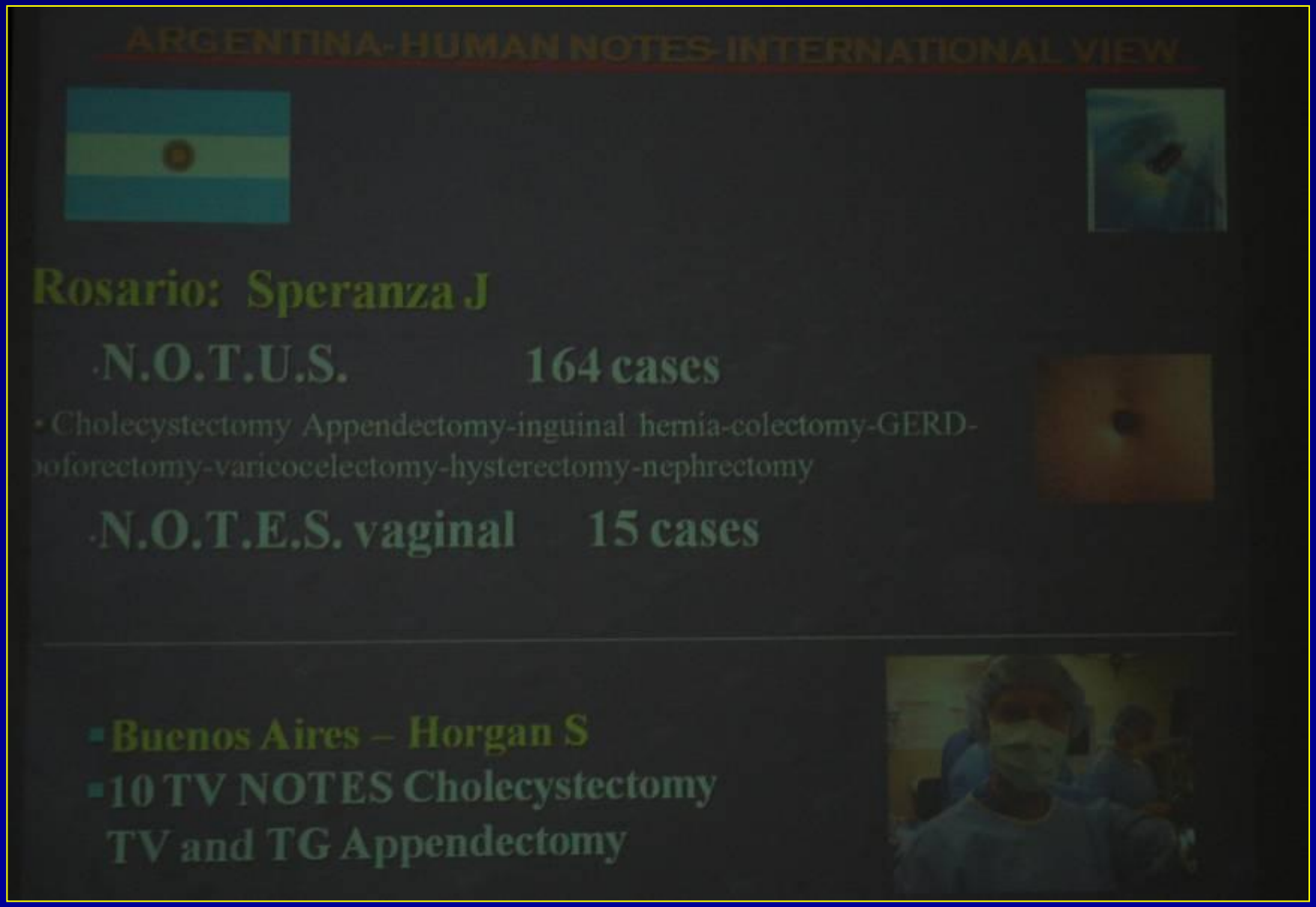
N.O.T.E.S. РАСПРОСТРАНЕННОСТЬ

СТАТИСТИЧЕСКИЕ ДАННЫЕ

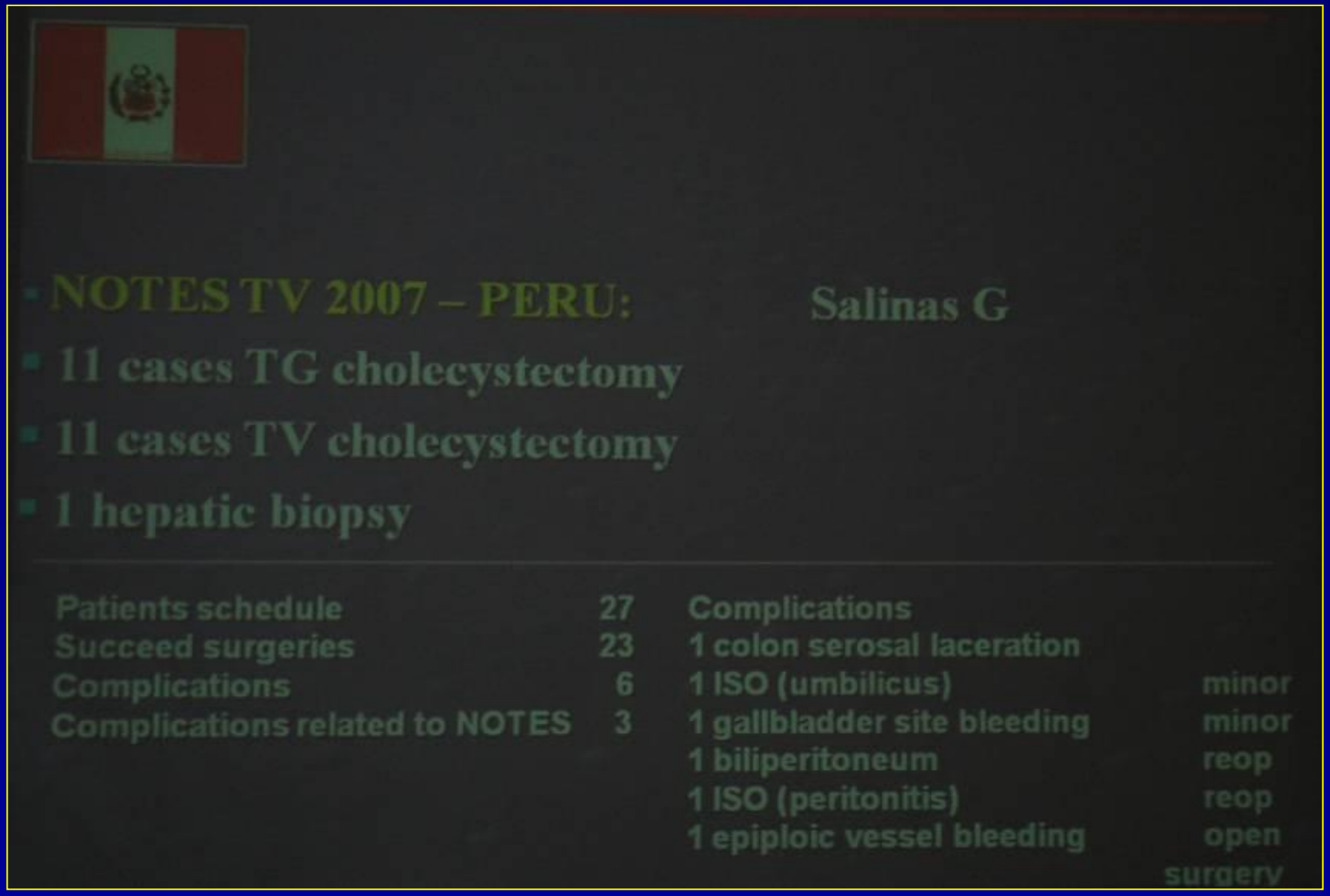


СТАТИСТИЧЕСКИЕ ДАННЫЕ

СТАТИСТИЧЕСКИЕ ДАННЫЕ



СТАТИСТИЧЕСКИЕ ДАННЫЕ



СТАТИСТИЧЕСКИЕ ДАННЫЕ

HUMAN NOTES-INTERNATIONAL VIEW

- NOTES TV November 2007 – EQUADOR:

Gómez N (Guayaquil)

3 cases TV cholecystectomy

NOTES TV– CHILE:

3 cases TV cholecystectomy

MEXICO: Ávila FD, Tsin D Poza Rica

5 cases TV cholecystectomy

СТАТИСТИЧЕСКИЕ ДАННЫЕ

IMTN BRAZILIAN NOTES MULTICENTER TRIAL

Zorrón R, DeCarli L, Branco Jr A, Speranza J, Salinas G, Forgione A, Galvao M, Ramos A, Horgan S, Palanivelu C, Souza LH, Mottin CC, Branco AW, Filgueiras M, Ayrosa P, Noda RW, Campos JM, Quinino R, Fonseca AG, Kawahara N, Sakai P, Lima FC, Avila FD, Gómez-Cuesta NA, Baloshanmugan TS

16 Medical Centers – 8 Countries

STATUS: Still recruiting Centers to join

RZORRON@TERRA.COM.BR

IMTN BRAZILIAN NOTES MULTICENTER TRIAL -224 PATIENTS

Zorrón R, DeCarli L, Branco Jr A, Speranza J, Salinas G, Forgione A, Galvão M, Ramos A, Horgan S, Palanivelu C, Souza LH, Mottin CC, Branco AW, Filgueiras M, Ayrosa P, Noda RW, Campos JM, Quinino R, Fonseca AG, Kawahara N, Sakai P, Lima FC, Avila FD, Gómez-Cuesta NA, Baloshanmugan TS

- University Hospital Teresopolis– HCTCO-FESO Rio de Janeiro, BRAZIL
- Santa Casa Porto Alegre, BRAZIL
- Hospital Cruz Vermelha Curitiba BRAZIL
- Gastrobeso Center- São Paulo, BRAZIL
- Souza Group- Goiania, BRAZIL
- University Federal Hospital Pernambuco- Recife, BRAZIL
- University Federal Rio Grande do Norte- Natal, BRAZIL
- PUC Rio Grande do Sul- Porto Alegre, BRAZIL
- Hospital Central Lima- PERU
- PSG Hospital, INDIA
- General Hospital Coimbatore, INDIA
- ILCAM-Granda Hospital -Milan, ITALY
- Hospital Rosario - ARGENTINA
- Hospital Regional SSA, MEXICO
- Hospital Quito – EQUADOR

BRAZILIAN NOTES MULTICENTER TRIAL

- Conversion to LAPAROSCOPY (N= 224pts)
  - 8 patients transvaginal chole (8/158)
  - 2 patients transgastric chole (2/21)
  - 2 patients transvaginal nephrectomy (1/3)
  - 0 patient transvaginal sleeve gastrectomy (0/3)
  - 0 patient transvaginal appendectomy (0/2)
  - 0 patient cancer staging (0/8)
  - 0 patient gynecologic surgery (0/12)

IMTN BRAZILIAN N.O.T.E.S. Multicenter Trial. Zorrón R, DeCarli L,Galvão M, Ramos A, et al 2008

IMTN BRAZILIAN NOTES MULTICENTER TRIAL

- NOTES Procedures IMTN 224 clinical NOTES (Brazil=129)

NOTES Procedures	Patients
1. TV Cholecystectomy	158
2. TG Cholecystectomy	21
3. TV Nephrectomy	3
4. TV Appendectomy	4
5. TV Hepatic Biopsy	3
6. TV Sleeve Gastrectomy	3
7. Gynecologic Procedures	12
8. Tubal ligation	4
9. TV Hysterectomy	2
10. TV Biopsy Peritoneoscopy	4
11. TV Oophorectomy	2
12. TV Cancer Staging	8
13. Other	10

IMTN BRAZILIAN N.O.T.E.S. Multicenter Trial. Zorrón R, DeCarli L,Galvão M, Ramos A, et al 2008

ВСЕМИРНЫЙ ОПЫТ ПО NOTES

Латинская Америка – более 450 наблюдений

Аргентина – 227 наблюдений

190 - трансумбиликальные операции
35 - NOTES трансвагинальные
2 - NOTES трансгастральные

Бразилия 220 наблюдений

20 - трансумбиликальные операции
173 - NOTES трансвагинальные
27 - NOTES трансгастральные

Чили 5 наблюдений (NOTES трансвагинальные)

Перу 19 наблюдений (NOTES трансвагинальные)

Мексика 10 наблюдений (NOTES трансвагинальные)

Германия – 65 наблюдений (NOTES трансвагинальные)

Япония – 5 наблюдений

США – 5 наблюдений (4 - NOTES трансвагинальные и 1 трансгастральная)

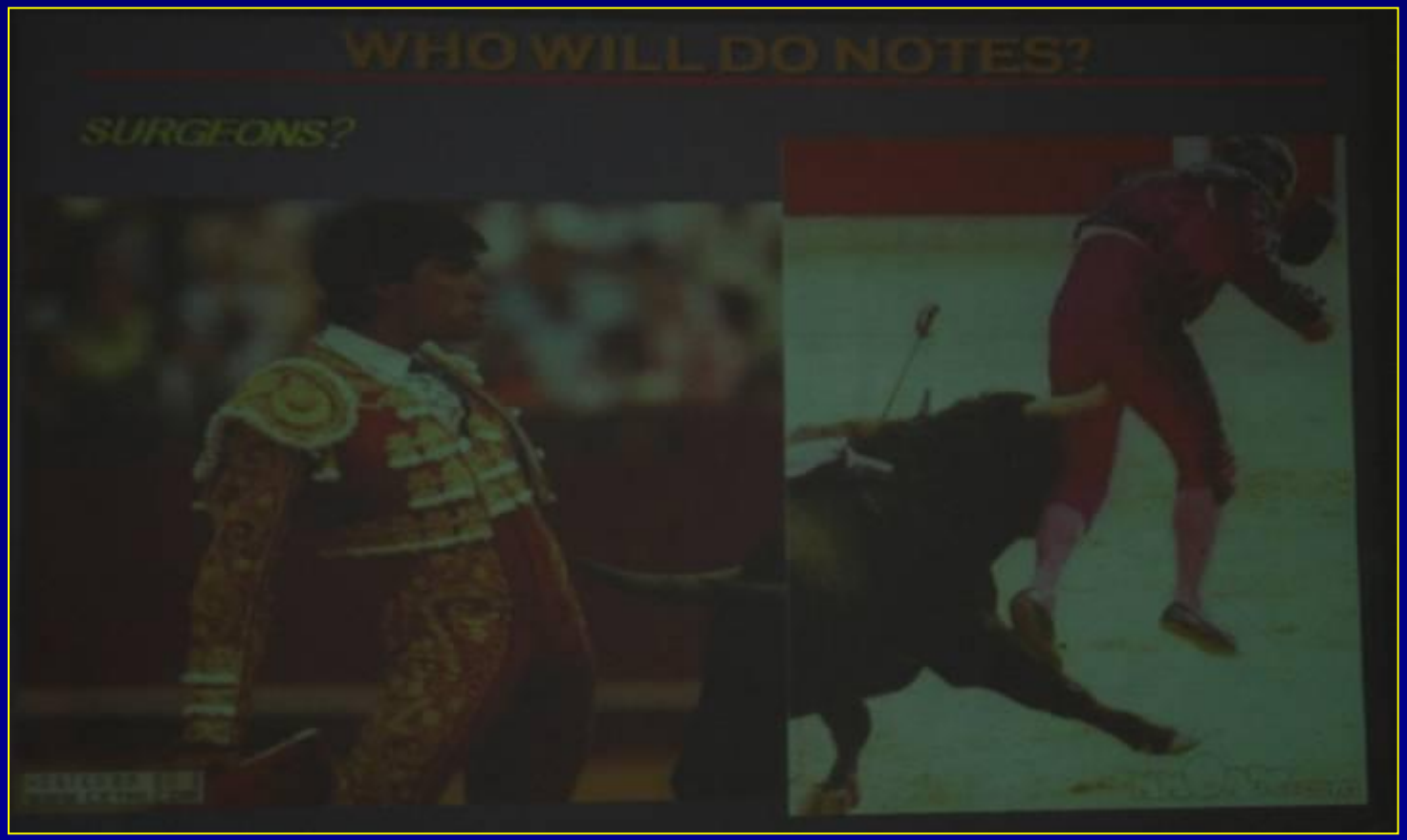
Франция – 1 наблюдение (NOTES трансвагинальная)

Индия – 14 трансгастральных аппендэктомий

Швеция – 1 трансгастральная аппендэктомия

Испания – NOTES колэктомия

КТО БУДЕТ ВЫПОЛНЯТЬ NOTES !?!?...

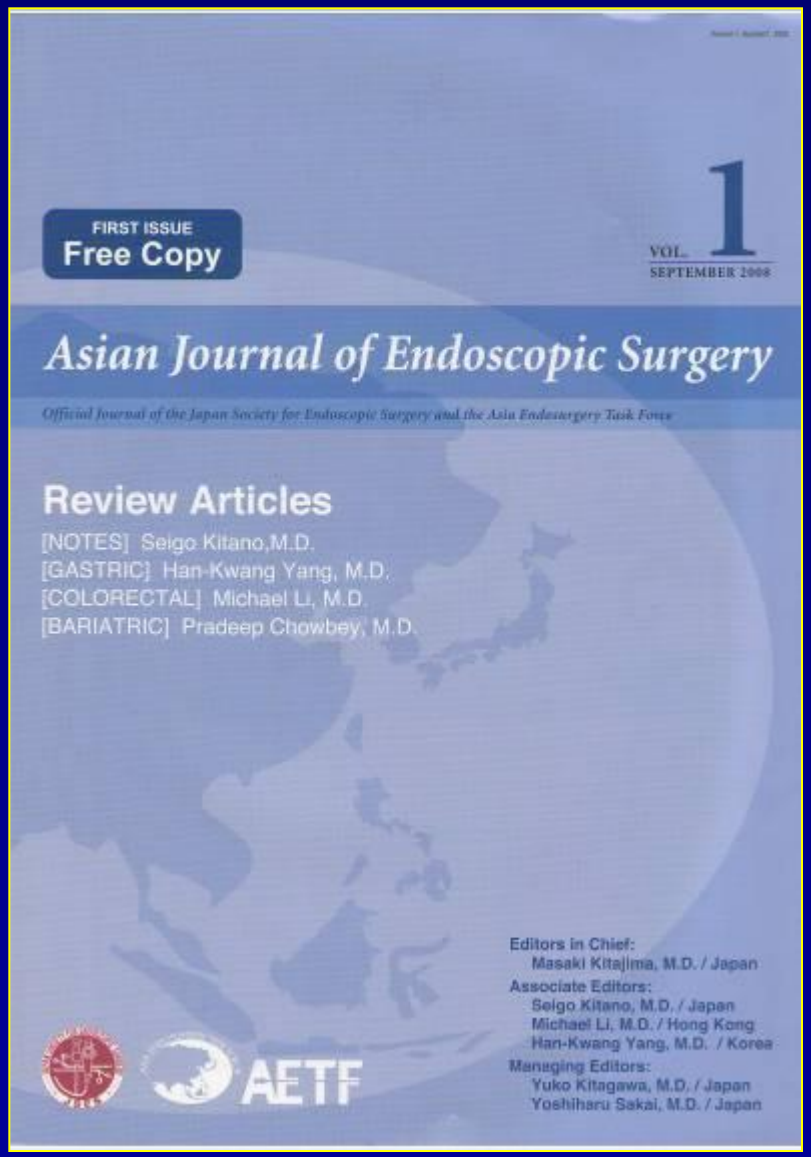


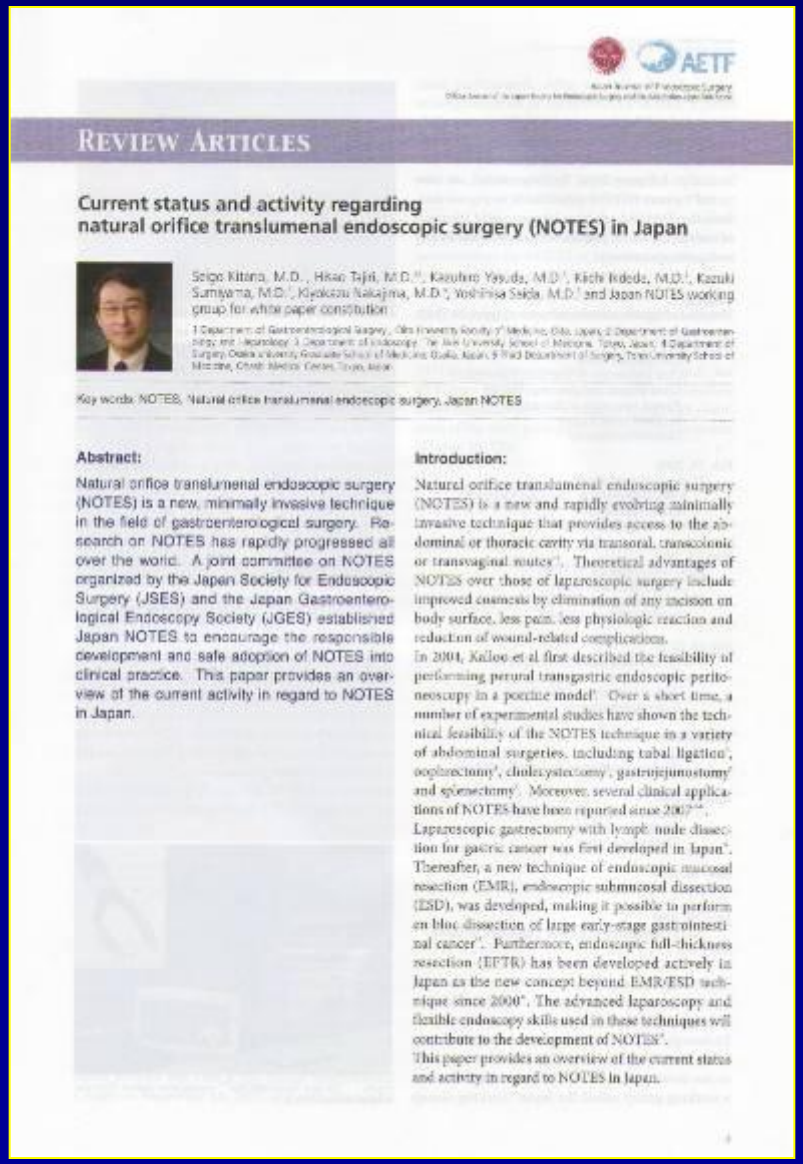
ХИРУРГИ
ГАСТРОЭНТЕРОЛОГИ
ГИНЕКОЛОГИ
ИНТЕРНИСТЫ

ЭНДОСКОПИСТЫ !?!...

NOTES ТЕХНОЛОГИИ НА СОВРЕМЕННОМ ЭТАПЕ

ВЫСТУПЛЕНИЕ ПРЕЗИДЕНТА КОНГРЕССА SEIGO KITANO





AETF

REVIEW ARTICLES

Current status and activity regarding natural orifice translumenal endoscopic surgery (NOTES) in Japan

Seigo Kitano, M.D., Hikari Tajiri, M.D., Kazuhiro Yasuda, M.D., Kichi Ikeda, M.D., Kazuki Sumiyama, M.D., Kiyokazu Nakajima, M.D., Yoshihisa Saida, M.D. and Japan NOTES working group for white paper constitution

Key words: NOTES, Natural orifice translumenal endoscopic surgery, Japan NOTES

Abstract:

Natural orifice translumenal endoscopic surgery (NOTES) is a new, minimally invasive technique in the field of gastroenterological surgery. Research on NOTES has rapidly progressed all over the world. A joint committee on NOTES organized by the Japan Society for Endoscopic Surgery (JSES) and the Japan Gastroenterological Endoscopy Society (JGES) established Japan NOTES to encourage the responsible development and safe adoption of NOTES into clinical practice. This paper provides an overview of the current activity in regard to NOTES in Japan.

Introduction:

Natural orifice translumenal endoscopic surgery (NOTES) is a new and rapidly evolving minimally invasive technique that provides access to the abdominal or thoracic cavity via transoral, transcolonic or transvaginal routes[1]. Theoretical advantages of NOTES over those of laparoscopic surgery include improved cosmesis by elimination of any incision on body surface, less pain, less physiologic reaction and reduction of wound-related complications.

In 2004, Kalloo et al first described the feasibility of performing peroral transgastric endoscopic peritoneoscopy in a porcine model[2]. Over a short time, a number of experimental studies have shown the technical feasibility of the NOTES technique in a variety of abdominal surgeries, including tubal ligation[3], oophorectomy[4], cholecystectomy[5], gastrojejunostomy[6] and splenectomy[7]. Moreover, several clinical applications of NOTES have been reported since 2007[8-10].

Laparoscopic gastrectomy with lymph node dissection for gastric cancer was first developed in Japan[11]. Thereafter, a new technique of endoscopic mucosal resection (EMR), endoscopic submucosal dissection (ESD), was developed, making it possible to perform en bloc dissection of large early-stage gastrointestinal cancer[12]. Furthermore, endoscopic full-thickness resection (EFTR) has been developed actively in Japan as the new concept beyond EMR/ESD technique since 2000[13]. The advanced laparoscopy and flexible endoscopy skills used in these techniques will contribute to the development of NOTES[14].

This paper provides an overview of the current status and activity in regard to NOTES in Japan.

NOTES И ИНФЕКЦИЯ

NOTES ™
Not Can we but Should we?

- The technical feasibility of NOTES is proven
- Should there be **any** sacrifices that a patient endures in order to undergo a NOTES procedure?
  - How should we measure these risks against the proposed benefits?

Cost, exposure/retraction, length of procedure and infection have been raised as concerns

Summary

- Infection/ GI leak rate will have to be less than 1% added to commodity procedures (gallbladder) where outcomes are uniformly excellent UNLESS outcomes are more revolutionary than predicted.

NOTES colon procedures maybe ideal indication

What will the barriers be?

- Cost, exposure/retraction, length of procedure can likely be brought into a range similar to laparoscopy given sufficient time , ingenuity and market size.

Trans-vaginal approach

- Vaginal flora varies with age, menopause status, and sexual activity.
- Bacterial vaginosis is common and can occur even among sexually inactive.
- Direct contamination of the peritoneum with bacteria secondary to STD is not well studied.

Clinical risk from infection is likely to be low but not absent

Trans-gastric Route

- Trans gastric instrumentation and bacterial contamination of the peritoneal cavity. (Melvin et al 2008)
  - 50 pts studied LAP-GB prospectively. PPI affected flora and bacterial load. NO significant infection

Can gastric irrigation prevent infection during NOTES mesh placement? (Buck et al 2008)

- NO!

Trans-vaginal approach

- How do gynecologists feel about transvaginal Notes surgery? (Ihara et al 2008)
  - Concerns about dyspareunia, endometriosis, infection
- A randomized trial of povidone iodine and chlorhexidine as antiseptics for vaginal hysterectomy (Culligan et al 2006)
  - Chlorhexidine is superior but contamination in both groups is persistent

Pelvic abscess and pelvic cellulitis runs 1 to 3%

Trans-colonic approach

- Even in the face of bowel preparation, bacterial counts are significant.
- Intra-abdominal abscess rate from incidental appendectomy appendiceal stump blow out rate is 1%

Clinically significant anastomotic leak rate is 2% however radiographic leak rate is 33%

Trans-colonic approach

- One should assume that there will be some incidence of infection associated with this route.

Using appendectomy as a model the infection and closure risk will be in the 1 to 3% range.

Most common routes

Depends on pH
More bacteria than believed

Gram – rods
Coliforms
Gram + cocci
Anerobes

Lactobacillus
Yeast
STD
Bacterial vaginosis is com

Concluding thoughts

- Trans gastric routes are likely to be associated with fewer infections.
- Even if the added infection rate is 1% then worldwide implication could be significant even for cholecystectomy where 10,000 additional infections will be seen for every one million cholecystectomies performed.

Concluding thoughts

Now we have.....

Revolutionary
pt outcomes/technology

Revolutionary
technology

NOTES И ИНФЕКЦИЯ

Methods

- 3 fluid samples collected from each patient

Sample	Collection Site	Lavage	Gastrotomy
A	Scope Rinse	No	Pre-gastrotomy
B	Peritoneum RUQ	Yes	Pre-gastrotomy
C	Peritoneum RUQ	Yes	Post-gastrotomy

Conclusion

- Scopes had bacterial contamination after being disinfected
- Bacterial contamination in the peritoneum is seen in 5/10 pts in sample C
- Transgastric peritoneoscopy caused no significant contamination in the peritoneal cavity
- There was minimal bacterial growth in the contaminated peritoneal fluid resulting in no clinically significant infections
- Gastric sterilization does not seem necessary in trans-gastric NOTES procedures

Conclusion

- Transgastric access to the peritoneal cavity is a safe platform on which the first generation NOTES procedures can be performed without any increased risk of infection or compromising the standard of care in humans

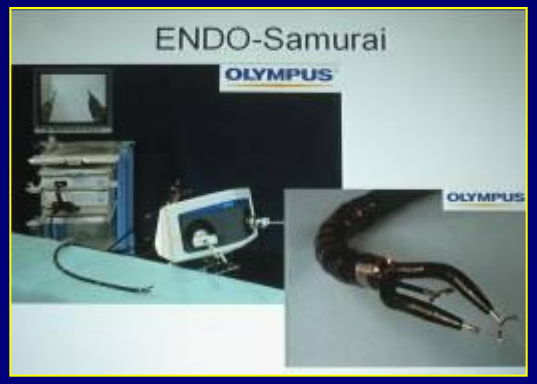
The Ohio State University
Center for Minimally Invasive Surgery

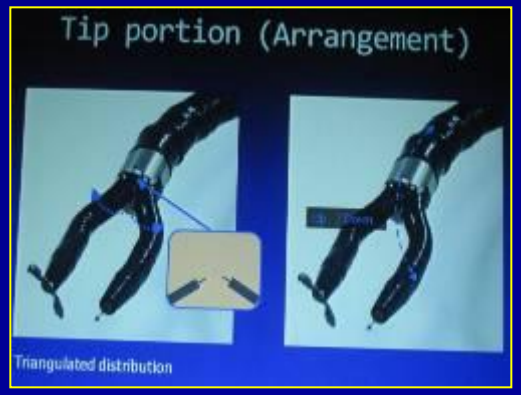
НЕ ВЕРЬТЕ, ЧТО ТОМ КРУЗ БЫЛ ПОСЛЕДНИЙ САМУРАЙ
Endo SAMURAI ОТКРОЕТ НОВЫЙ ПУТЬ В 21-Й ЭНДОСКОПИЧЕСКИЙ ВЕК…

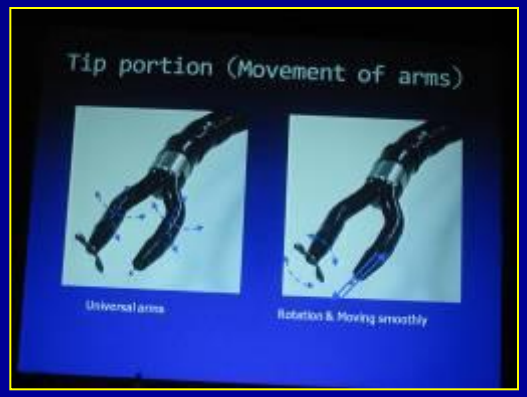
"Endo SAMURAI" will soon be on its way in the 21st century.

Surgery
Laparoscopy
More Interventional
Merging Technologies
Less Invasive
Endoscopy

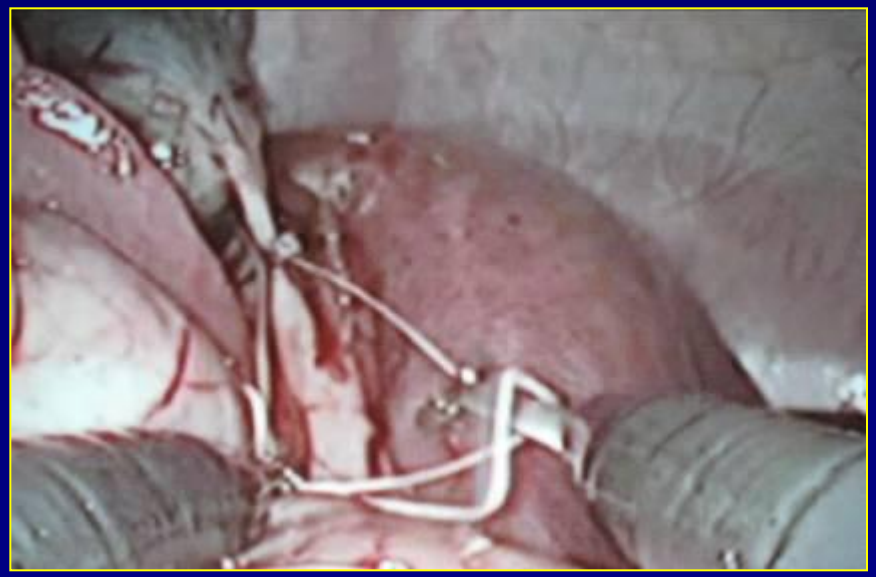
EndoSAMURAI







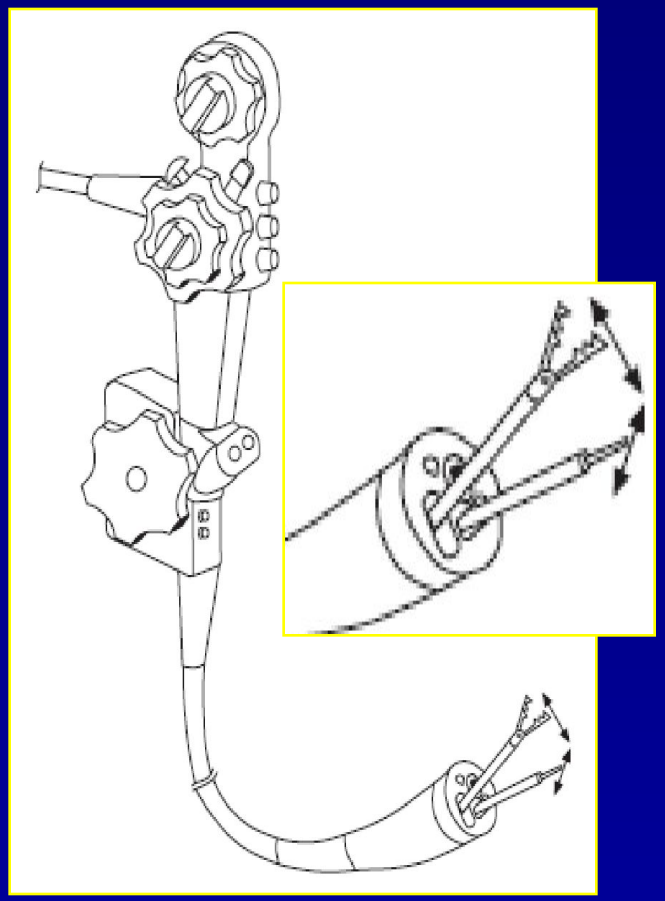
ТРАНСРЕКТАЛЬНАЯ ХОЛЕЦИСТЭКТОМИЯ С ИСПОЛЬЗОВАНИЕМ EndoSAMURAI (в эксперименте)



РАБОТА EndoSAMURAI НА СТЕНКЕ ПОЛОГО ОРГАНА (в эксперименте)

ГИБКОВОЛОКОННЫЕ ЭНДОСКОПЫ ДЛЯ NOTES ВМЕШАТЕЛЬСТВ

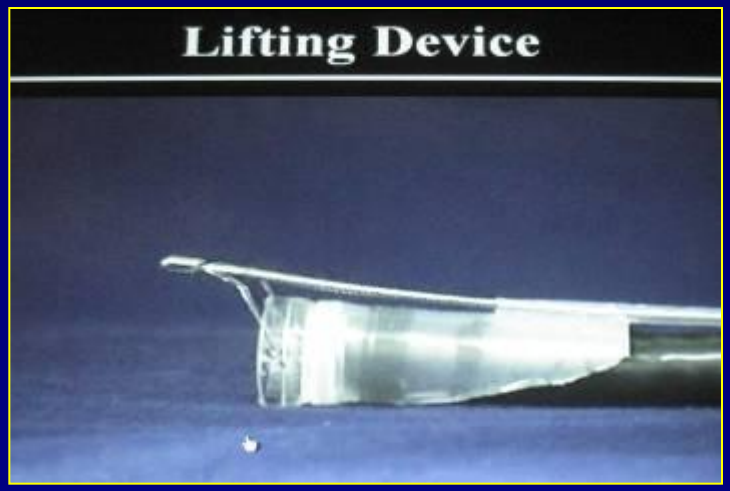
R-scope

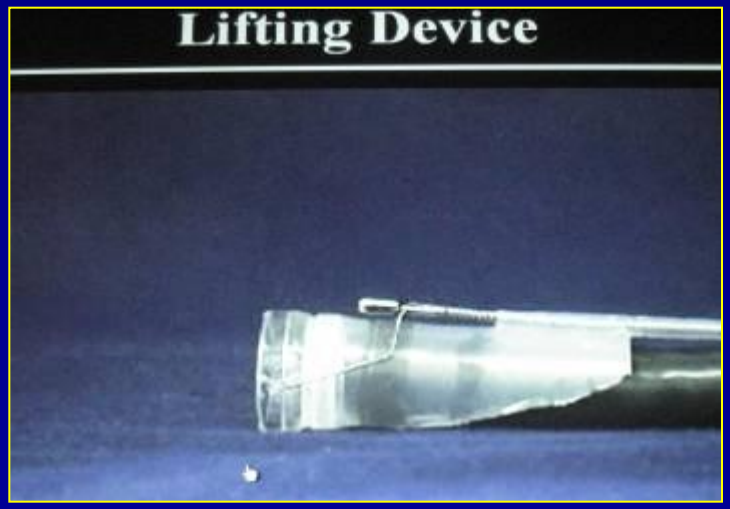


3-х канальный эндоскоп

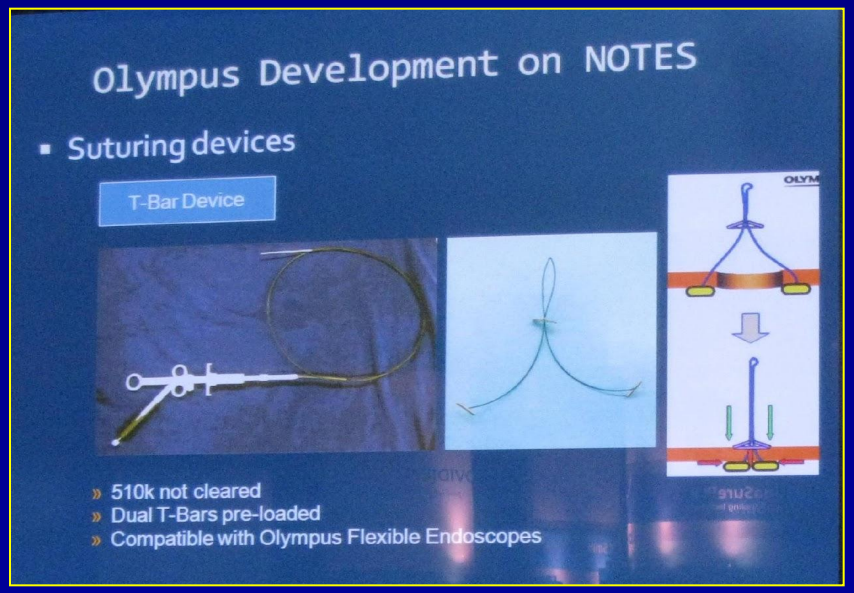
Эндоскоп COBRA

NOTES - НОВЫЕ ИНСТРУМЕНТЫ

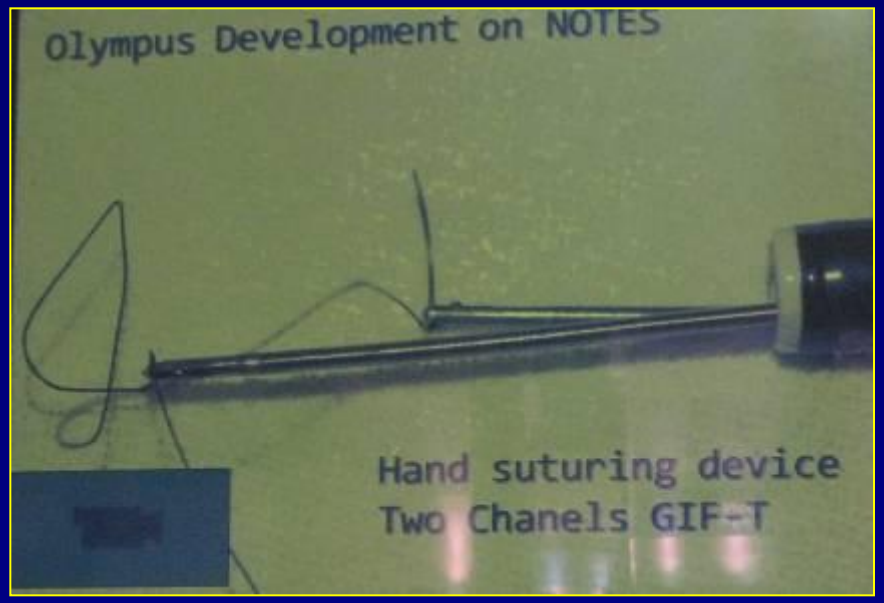


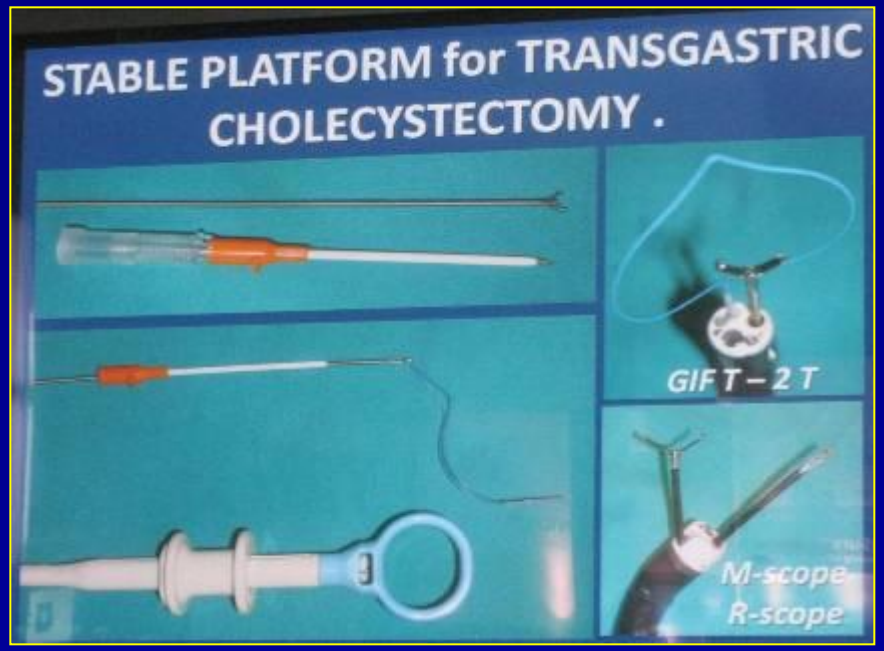


NOTES - ИНСТРУМЕНТЫ

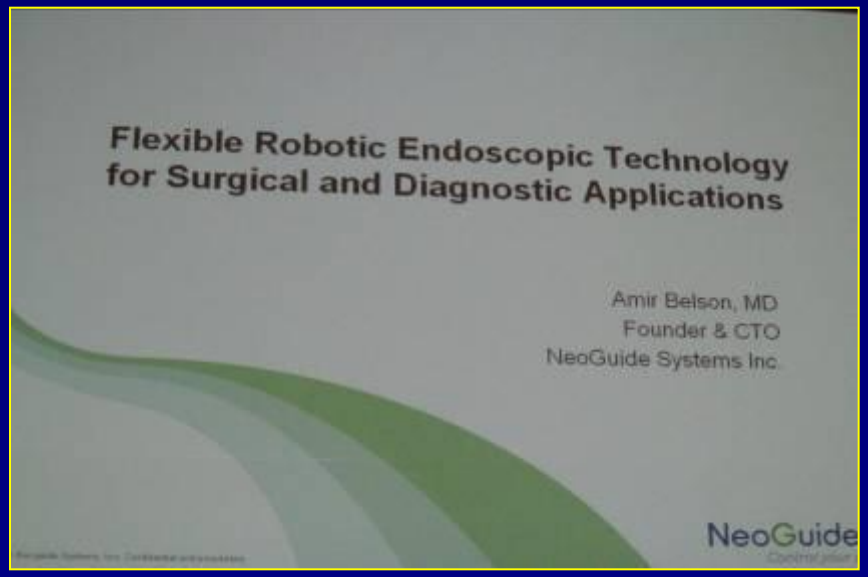


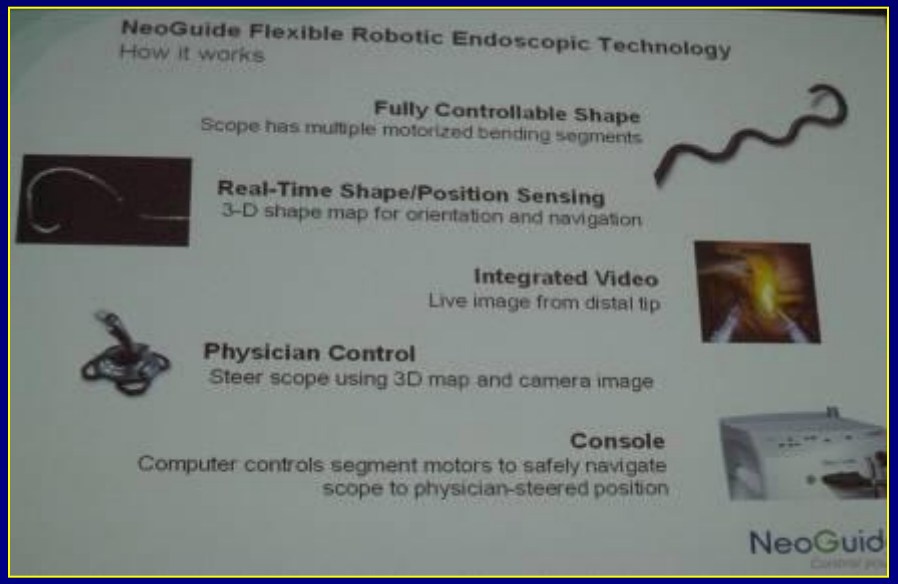
NOTES - ИНСТРУМЕНТЫ

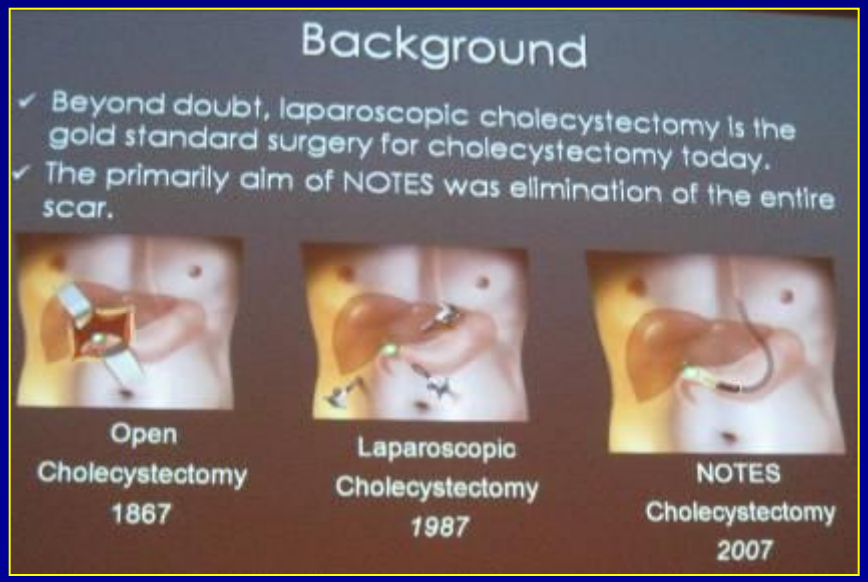


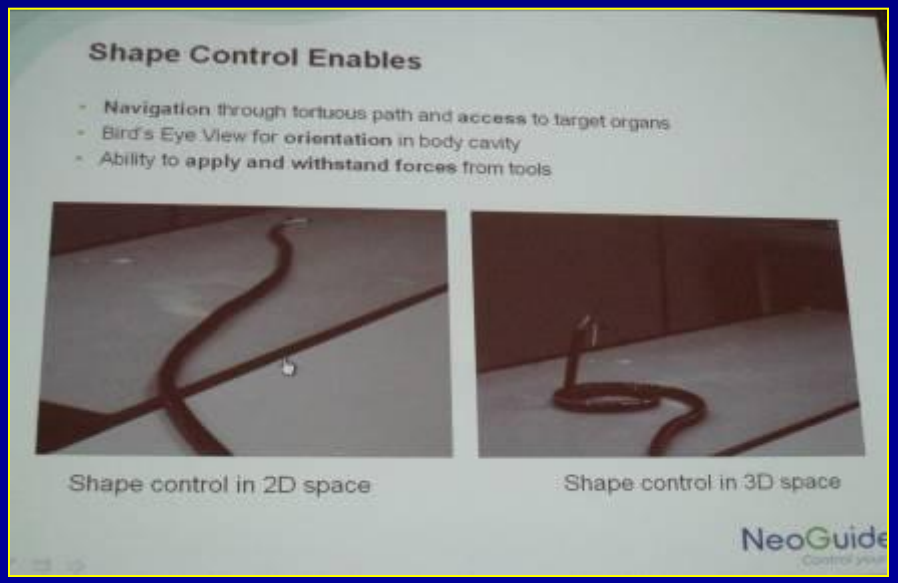


ГИБКОВОЛОКОННЫЕ РОБОТОНИЗИРОВАННЫЕ ЭНДОСКОПИЧЕСКИЕ ТЕХНОЛОГИИ



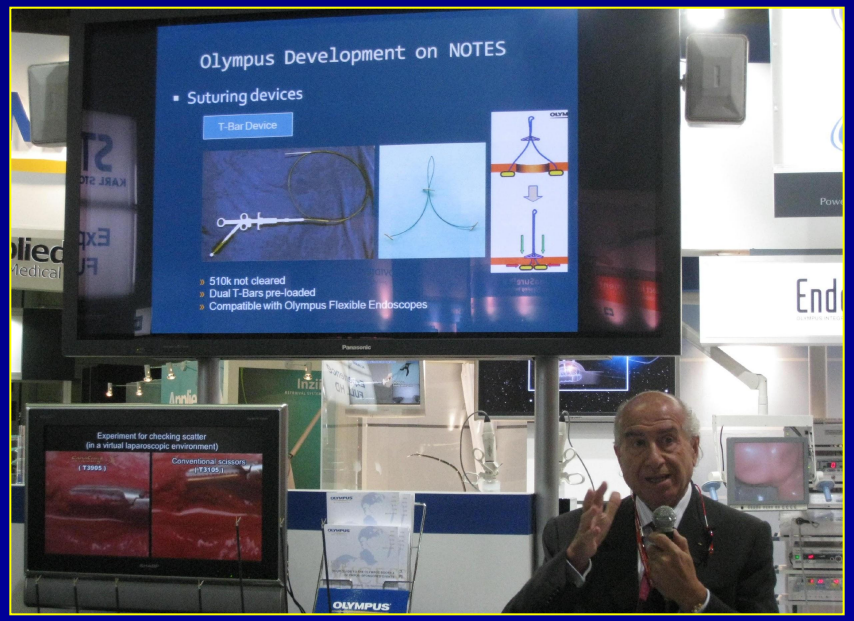




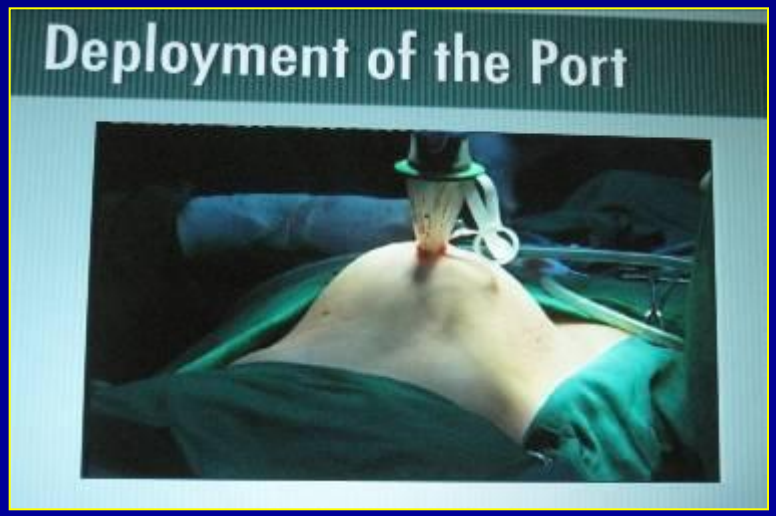


КОЛОССАЛЬНЫЙ ОПЫТ, ПОЧТЕННЫЙ ВОЗРАСТ В ЛИЦЕ АРМЕНГОЛ МИРО…
- ПРИЗНАЮТ И ДАЮТ ЖИЗНЬ НОВЫМ ТЕХНОЛОГИЯМ В ВИДЕ *N O T E S …*

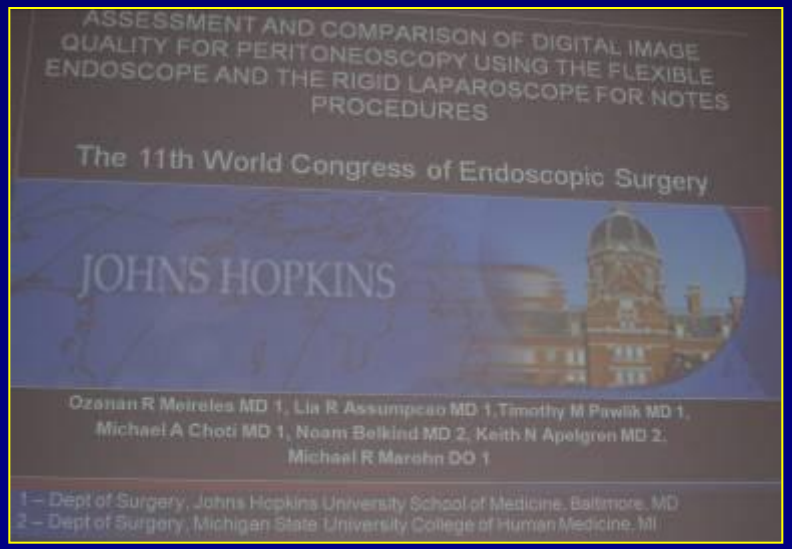
КОЛОССАЛЬНЫЙ ОПЫТ, ПОЧТЕННЫЙ ВОЗРАСТ В ЛИЦЕ АРМЕНГОЛ МИРО… - ПРИЗНАЮТ И ДАЮТ ЖИЗНЬ НОВЫМ ТЕХНОЛОГИЯМ В ВИДЕ *N O T E S …*

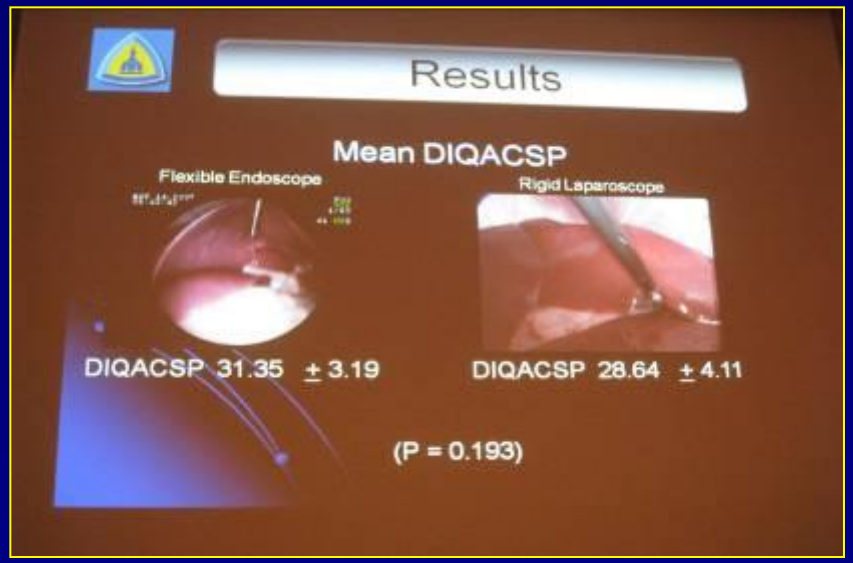


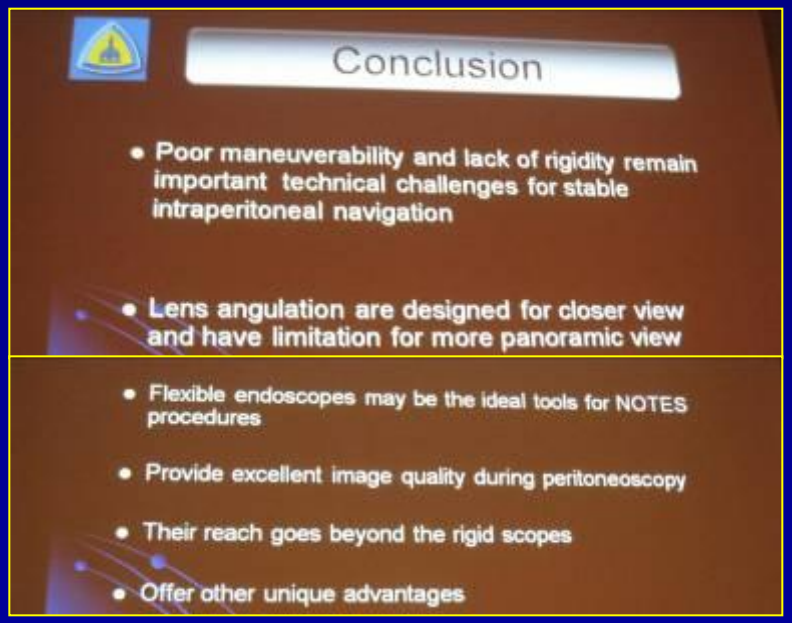
SILS	Single Incision Laparoscopic Surgery
OPUS	One Port Umbilical Surgery
SPA	Single Port Access
LESSS	Laparoscopic & Endoscopic Single Site Surgery

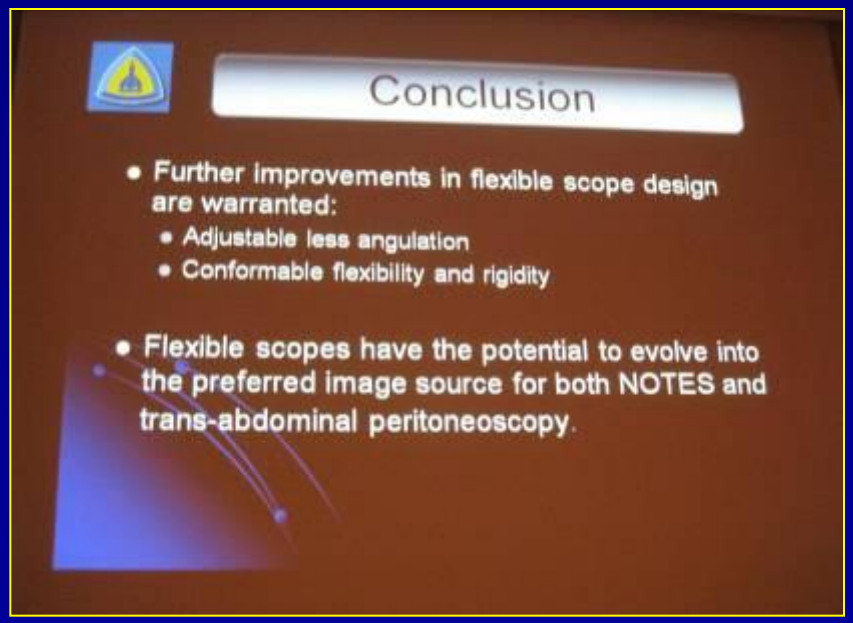


СРАВНИТЕЛЬНАЯ ОЦЕНКА ГИБКОВОЛОКОННОЙ ПЕРИТОНЕОСКОПИИ И РИГИДНОЙ ЛАПАРОСКОПИИ

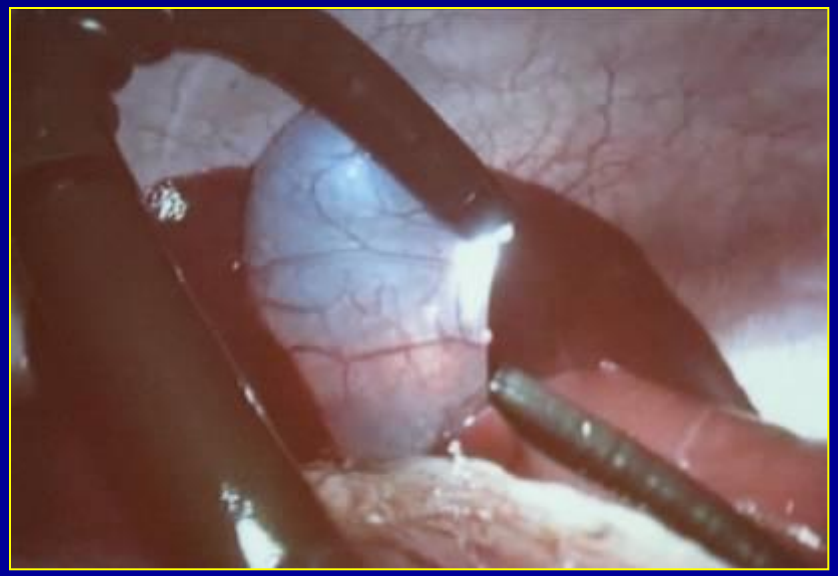




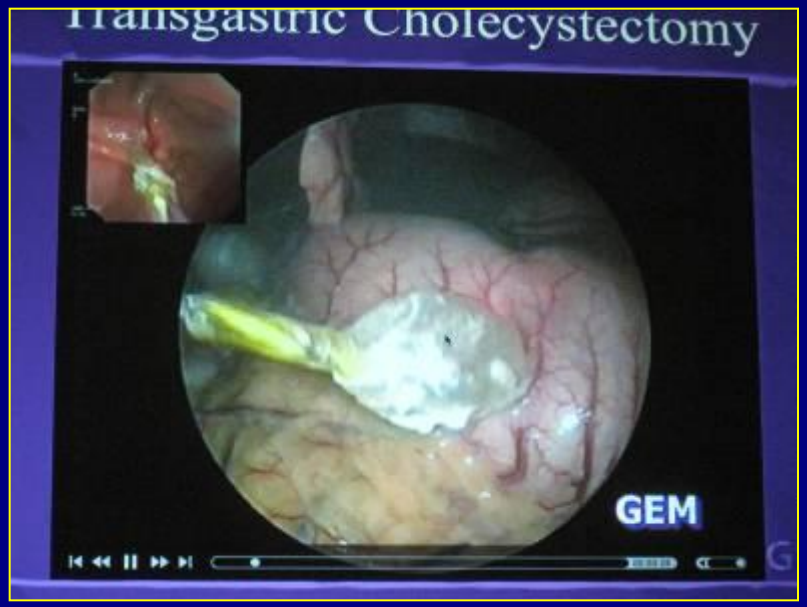




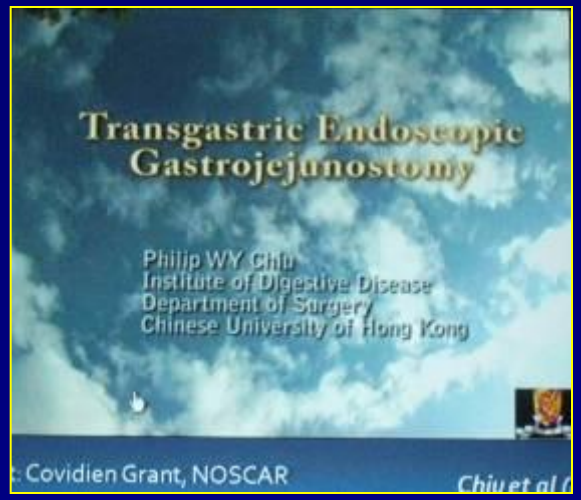
ТРАНСГАСТРАЛЬНАЯ ХОЛЕЦИСТЭКТОМИЯ



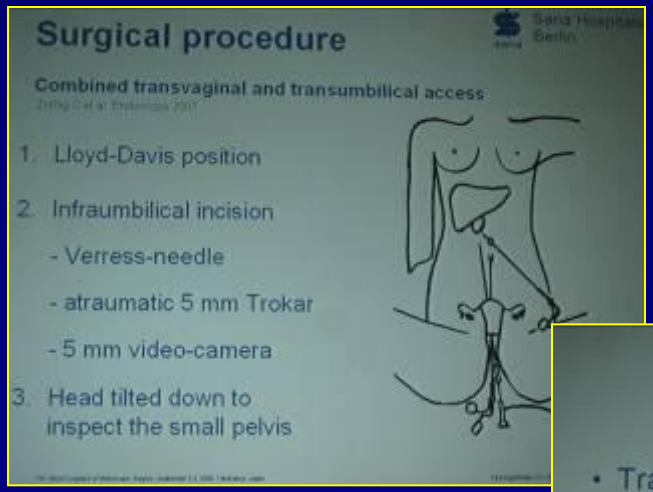
TGChol. ТРАНСГАСТРАЛЬНАЯ ХОЛЕЦИСТЭКТОМИЯ

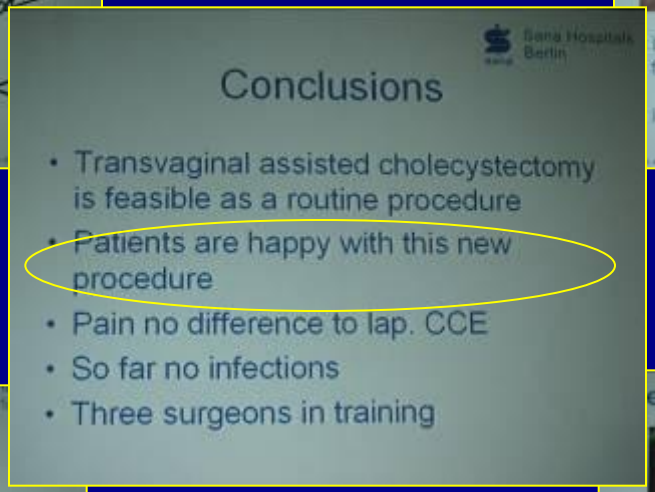


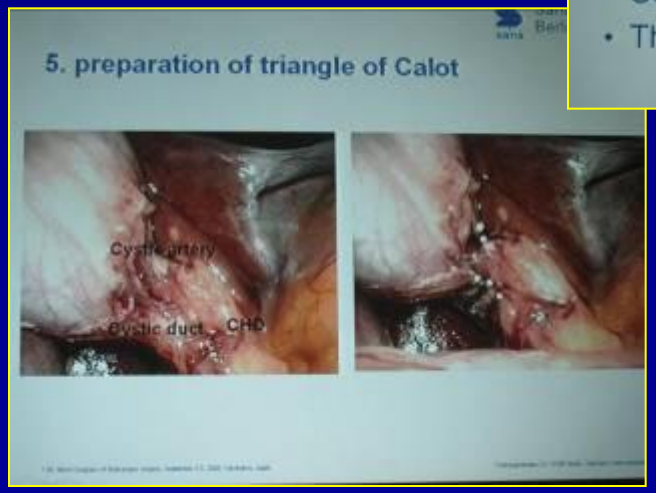
ТРАНСГАСТРАЛЬНАЯ ЭНДОСКОПИЧЕСКАЯ ГАСТРОЕЮНОСТОМИЯ (в эксперименте)



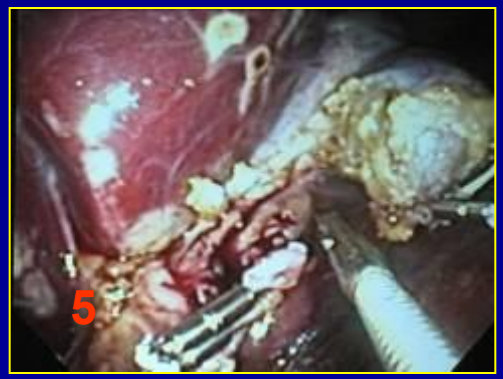
TVChol. ТРАНСВАГИНАЛЬНАЯ ХОЛЕЦИСТЭКТОМИЯ С ТРАНСУМБИЛИКАЛЬНОЙ АССИСТЕНЦИЕЙ





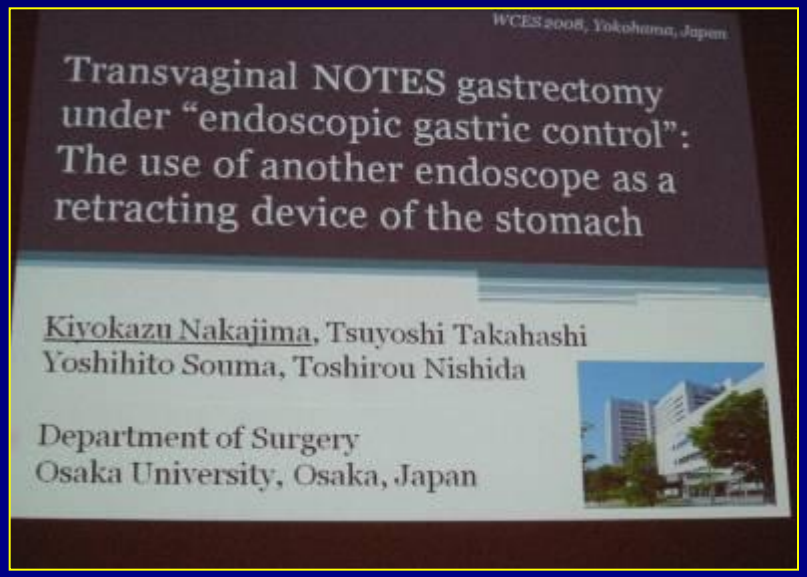


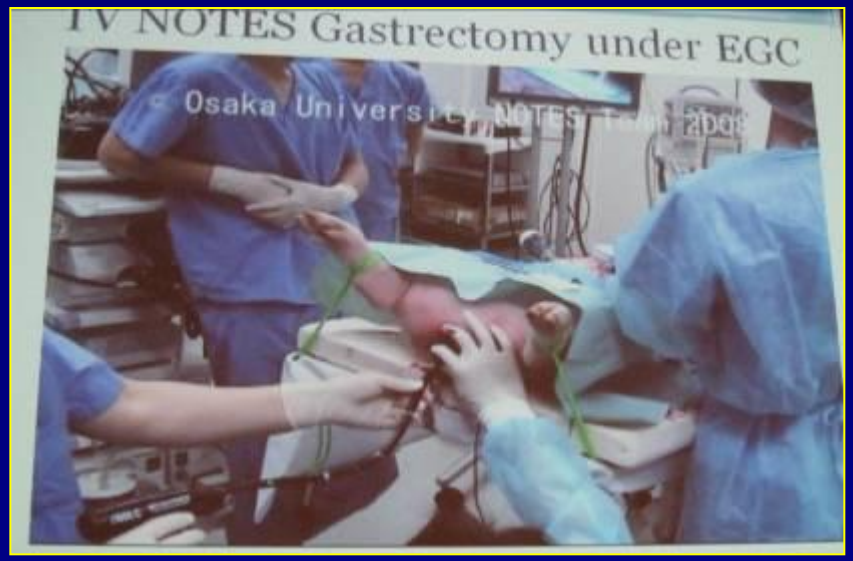
TVChol Трансвагинальная холецистэктомия у человека с использованием IT-Knife инструмента

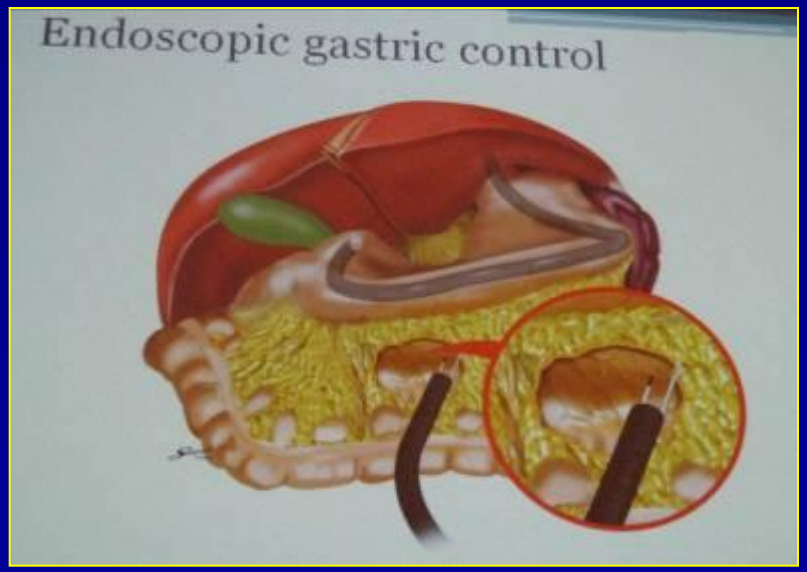


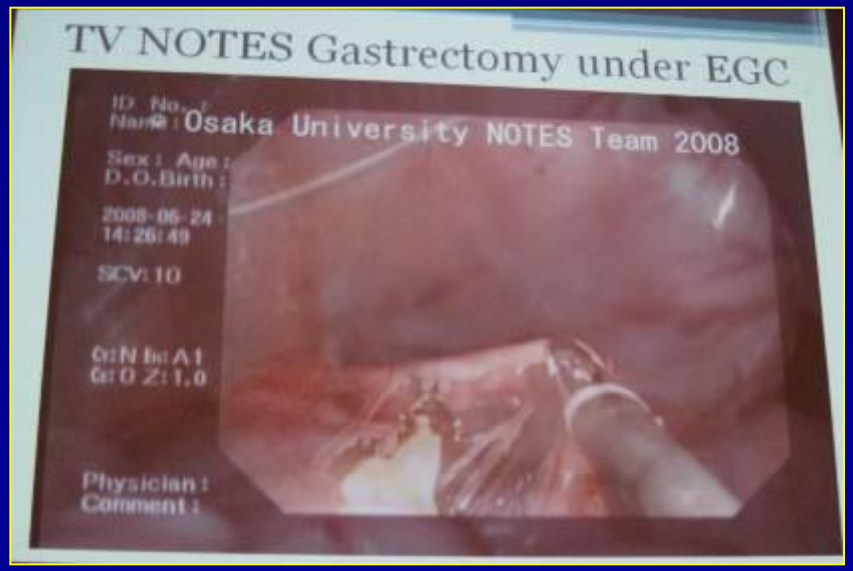
NOTES. ТРАНСГАСТРАЛЬНОЕ ИЗВЛЕЧЕНИЕ УДАЛЕННЫХ ОРГАНОВ

ТРАНСВАГИНАЛЬНАЯ NOTES ГАСТРЭКТОМИЯ В ЭКСПЕРИМЕНТЕ



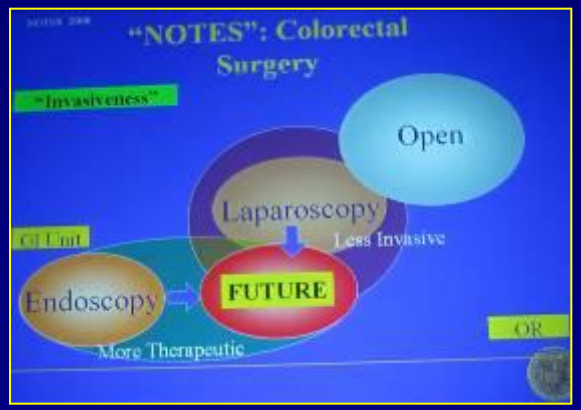


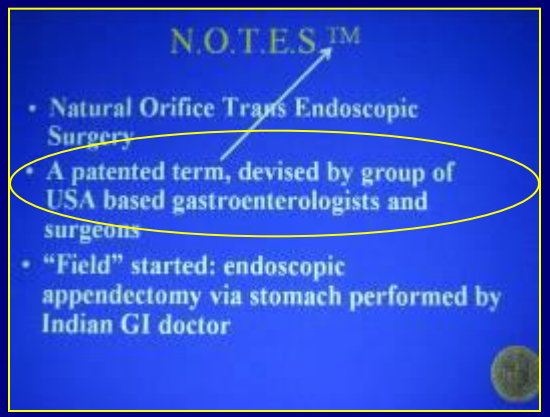




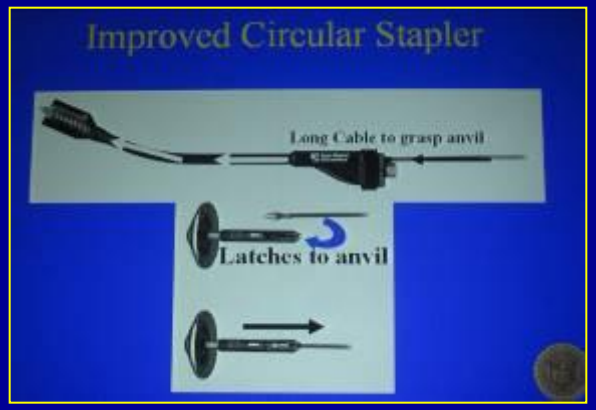
COLON - NOTES

Emerging MIS Techniques for Colorectal Surgery: Endoluminal, Combined approaches, NOTES™
CORNELL
NEW YORK PRESBYTERIAN


"NOTES": Colorectal Surgery
"Invasiveness"
Open
Laparoscopy
Less Invasive
GI Endo
Endoscopy
FUTURE
More Therapeutic
OR

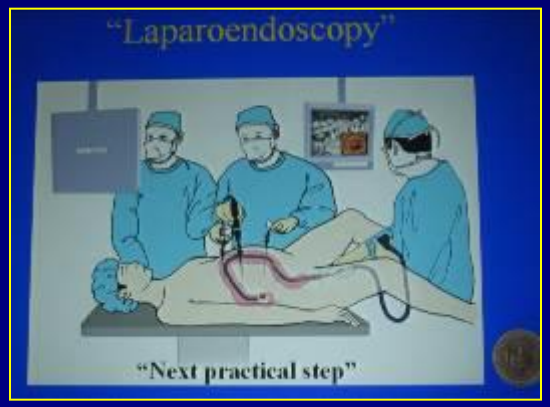

N.O.T.E.S.™
• Natural Orifice Trans Endoscopic Surgery
• A patented term, devised by group of USA based gastroenterologists and surgeons
• "Field" started: endoscopic appendectomy via stomach performed by Indian GI doctor

New Stapling Devices
60°
90°
•Hand Held
•Flexible shaft
•Various Stapler clips

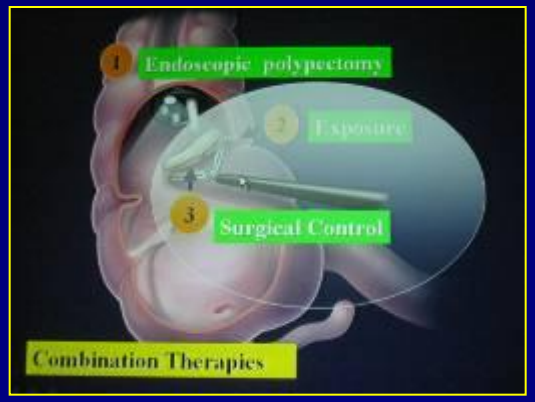

Improved Circular Stapler
Long Cable to grasp anvil
Latches to anvil

Practical Applications: New Endoluminal Therapies in Colorectal Diseases
• Closure of perforations
• Repair of anastomotic leaks
• Aggressive excisional therapies
– Benign lesions
– Some cancers?
– Strictures
– Others

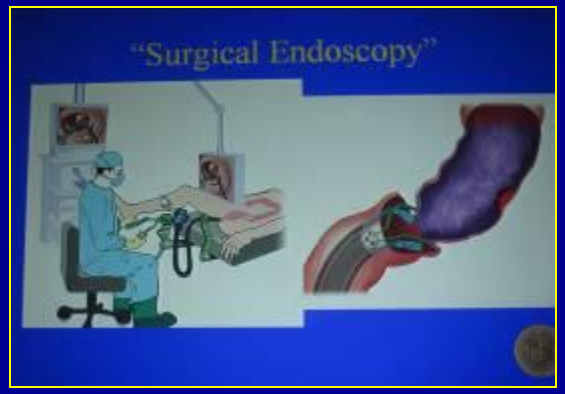
COLON - NOTES


"Laparoendoscopy"
"Next practical step"

CO2 Insufflator for Colonoscope

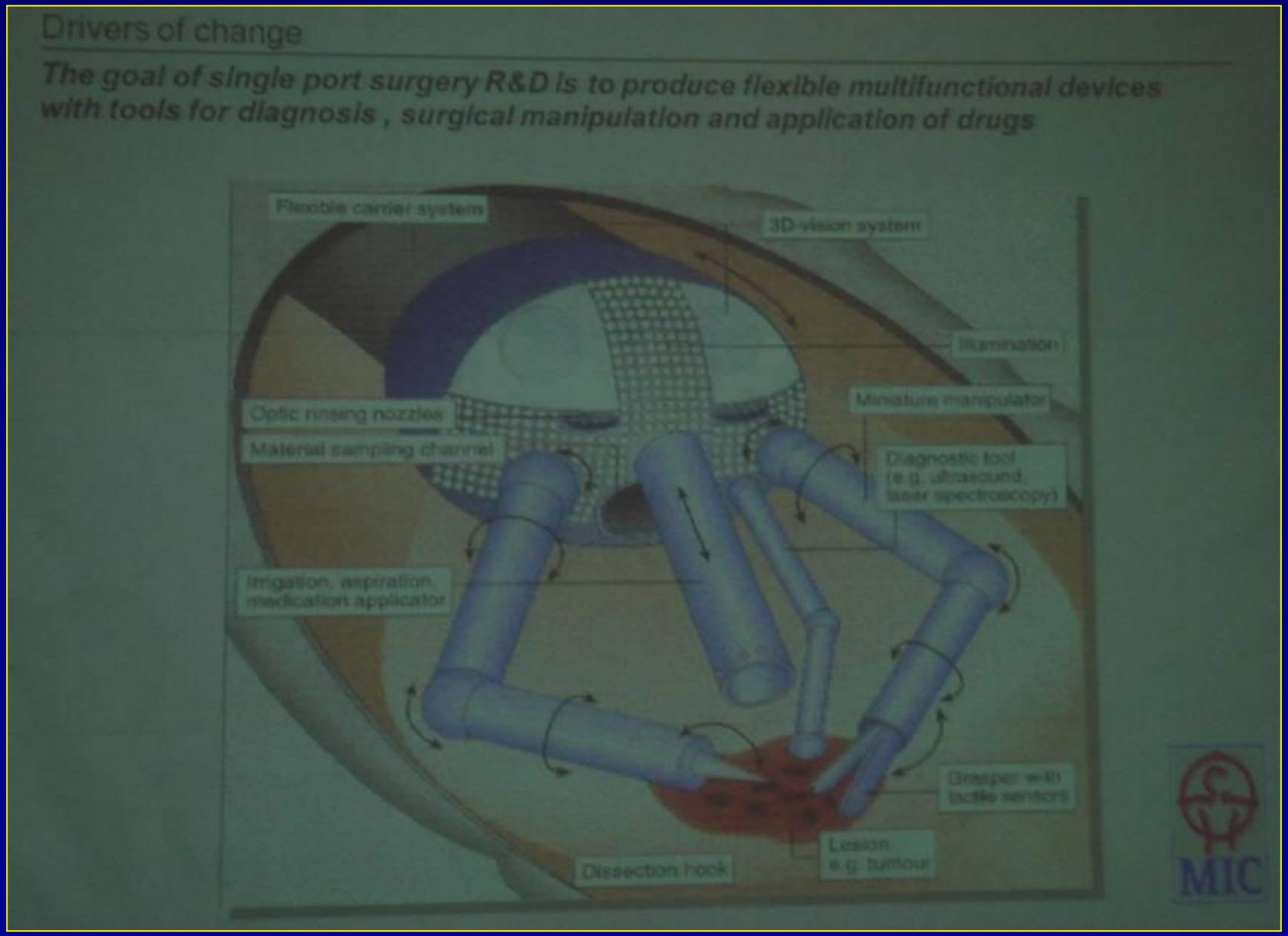

1 Endoscopic polypectomy
2 Exposure
3 Surgical Control
Combination Therapies

"NOTES" Colon & Rectal Surgery
Surgical Endoscope
Endoluminal procedure development


"Surgical Endoscopy"

Surgical Endoscopy:
"Advanced" Endoluminal
Therapies

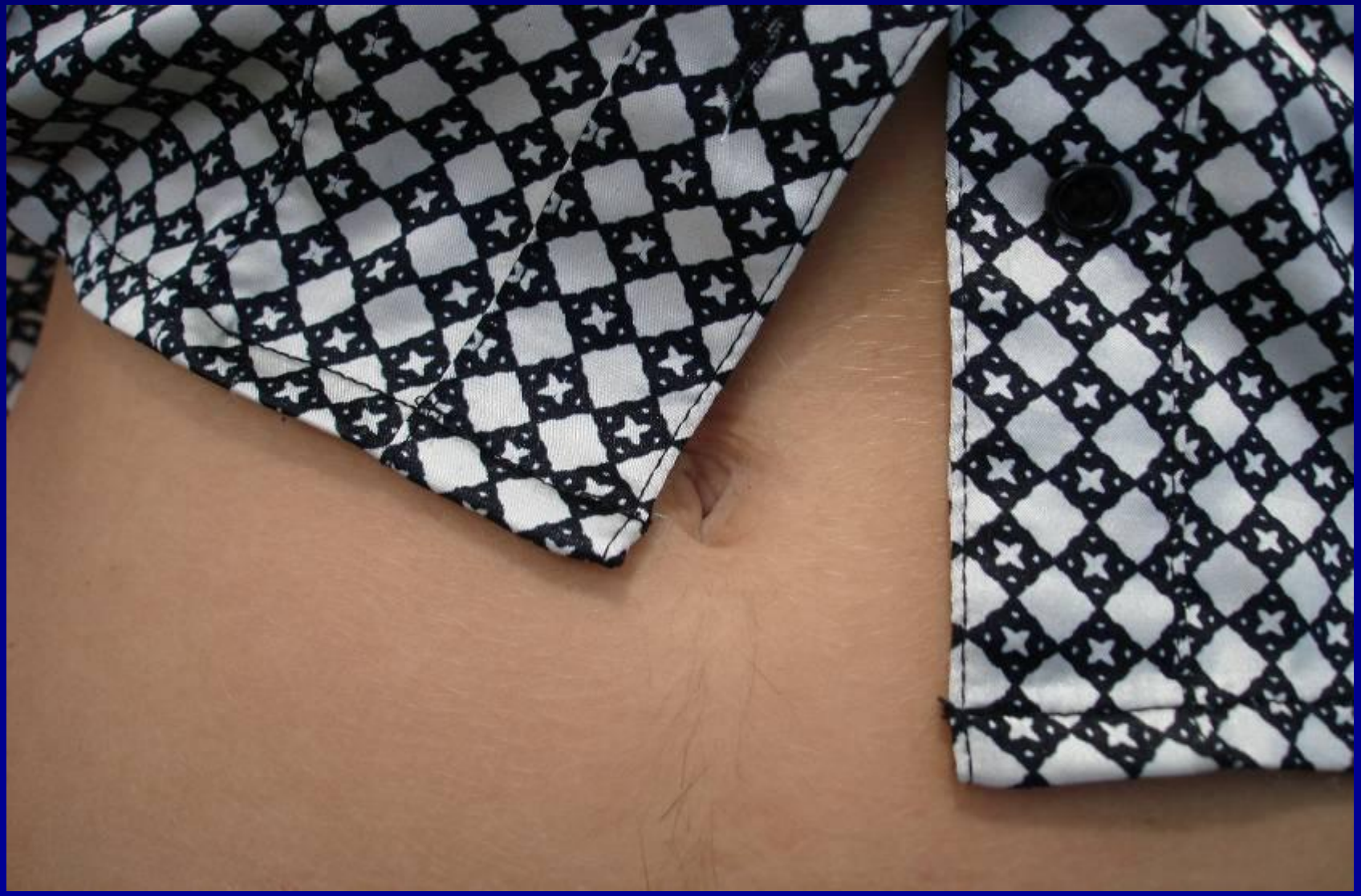
NOTES – под грифом «NO Photo…»



ПОМОГАЯ ДРУГ ДРУГУ БУДЕМ ДВИГАТЬСЯ ВПЕРЁД …

СПАСИБО ЗА ВНИМАНИЕ И ТЕРПЕНИЕ!

N.O.T.E.S.



N.O.T.E.S.